Proposed
Rate Design Report

2007 –2008

Seattle City Light

August 2006

PROPOSED

RATE DESIGN REPORT

2007-2008

Financial Planning Unit
Finance Division
Seattle City Light
August, 2006

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Chapter 1

Introduction

1.1 Summary

This report presents the Mayor's recommended electric rates for the period January 1, 2007 through December 31, 2008. It is one of a set of three reports which City Light has written to document a proposed general change in rates. The first report, *Proposed Revenue Requirements Analysis 2007-2008* (RRA), assesses the amount of revenue needed to sustain the operations and capital program of the utility. The second report, *Proposed Cost of Service and Cost Allocation Report 2007-2008* (COSACAR), analyzes the cost of providing service to City Light customers and presents the revenue allocation to each of the rate classes. This *Proposed Rate Design Report 2007-2008* presents the recommended rates for each customer class that will collect revenues consistent with the total revenue requirement established in the RRA and with the class revenue targets established in the COSACAR.

Specific design principles have guided the construction of the individual rates. These are consistent with the overall rate-setting objectives of the City, which were most recently affirmed in City Council Resolution 30685 in 2004. The long-term rate objectives in the Resolution state that rates should be sufficient to meet City Light's revenue requirement while remaining as low as possible over the long run, should be based on the costs of service to the customer and should reflect changes in the costs of service over time, should reflect a fair apportionment of costs of service among customer groups, should give customers incentives for cost effective conservation and the efficient use of electric resources, and should be changed in an orderly manner over time.

Other policies included in the Resolution, which have also guided the structure and amount of the recommended rates, are that rates should be designed with increasing blocks where feasible and fair in order to encourage conservation, that time-of-use options should be investigated where they can be implemented effectively, that a fixed charge can be included in rate schedules but it should not reduce price signals to customers unnecessarily, that the impacts of electricity costs should be mitigated for low-income customers, and that demand charges should be structured to send appropriate signals to commercial and industrial customers as an incentive to manage their loads.

1.2 Overview of Recommended Rates

Rate Schedule Changes

In this rate review, the following rate schedule changes are proposed:

1. Addition of a new Small Network General Service rate schedule (Schedule SMD) for small business customers in network areas, for the purpose of facilitating administrative transfer to the correct Medium Network General Service billing rates when peak load increases require such a change. The recommended rate schedule for Small Network General Service is the same as the Small General Service: City schedule.

2. Elimination of the High Demand General Service Interruptible rate schedule (Schedule HDI). This schedule serves only one customer which, by contract, will return to the High Demand-City (HDC) rate schedule when a new ordinance establishes new HDC rates. If, in the future, City Light contracts with customers for interruptible rates, such a schedule can be reinstated.

3. Elimination of the Variable Rate General Service rate schedules available to customers otherwise eligible for High Demand General Service in the City of Seattle (Schedule VRC) and in Tukwila (Schedule VRT). No customers have requested service under such a schedule since August 1998. City Light would prefer to avoid the economic risk to which it is exposed through the existence of the Variable Rate schedules, since under certain conditions it might be unable to fully recover its energy costs from customers paying market-indexed energy rates.

4. Elimination of the New Large Load General Service rate schedule (Schedule NLL). This rate schedule was adopted in 2000 with the purpose of protecting City Light from the potential for stranded investment and rate shock in a period of expected rapid increases in business loads and the accompanying need for large investments in distribution infrastructure. However, loads did not materialize as rapidly as expected at that time. Furthermore, developers have found ways to split up loads that would potentially be served under the NLL rate schedule so that they do not trigger its requirements. Consequently, no customers have ever been served under this rate schedule. The NLL rate schedule also requires billing for energy and demand under Variable Rate General Service rate schedules, which are proposed for elimination.

One Two-Year Rate Period

The recommended rate schedules each propose one set of rates to be effective for the 2007-2008 period. Consequently, each one is calculated using a two-year revenue requirement and two-year billing determinants.

The following table shows the average rate changes for 2007-2008 as compared to rates effective in 2006.

AVERAGE PERCENTAGE RATE CHANGES BY CUSTOMER CLASS 2007-2008 as compared to 2006				
	Seattle	**Network**	**Suburbs**	**Tukwila**
Residential	-2.2%		0.8%	2.8%
Residential Rate Assistance*	-1.5%		0.9%	3.0%
Small General Service	-2.3%		0.2%	-0.9%
Medium General Service	-13.8%	-6.7%	-9.1%	-10.2%
Large General Service	-9.0%	-1.8%	-3.3%	-4.3%
High Demand General Service	-11.4%			-9.9%
Streetlights	69.2%			

*Set at 40% of the standard Residential rates for each rate block in each jurisdiction. Average rate changes differ from those of standard Residential rate classes because of differing consumption patterns.

Peak Demand Charges

Peak demand charges in the recommended Large and High Demand General Service rate schedules have been doubled in order to bring them closer to the marginal cost of the distribution system for network and non-network service. The reason for the change is to provide a stronger incentive to large customers to reduce or change the time of their peak demand in order to reduce the need for City Light to build new distribution capacity. In the current rate schedules for these customers, peak demand charges are set to recover only the marginal costs of transformers. The following table compares the current and recommended peak demand charges.

	Current	**2007-2008**
High Demand General Service	$.40	$.80
Large General Service		
Standard	$.40	$.80
Network	$.84	$1.68

While closer to the marginal cost of distribution than current peak demand charges, the recommended charges are still significantly below the actual marginal cost per kilowatt, which is approximately $12 for Large Network, $3 for Large Non-network, and $2 for High Demand customers.

Marginal Costs of Energy

City Light's marginal value of energy is based on short-term forecasts of West Coast market energy prices, because the market is City Light's marginal resource. Amounts representing the cost of environmental externalities are added to these prices. These energy values are computed on a monthly basis by high-load-hour and low-load-hour periods and are considered to be "marginal values of energy to the system." Such values

computed for this rate review are higher and flatter across the months of the year than the values of energy used in the last rate review. The marginal values of distribution are added to the marginal values of energy to the system, and the composite value is called "marginal value of energy to the customer." When marginal values of distribution are added, the result is even flatter total values of energy across the months of the year. For the 2007-2008 period, on a system-wide basis and including taxes, these values have been estimated at about 9.3¢/kWh for marginal values to the system, and 10.5¢/kWh for marginal values to the customer.

The levels and pattern of the marginal values of energy have influenced the design of rates in this rate review in two principal ways. First, because of their relative flatness across the year, year-round rather than seasonal rates have been recommended. Second, residential second-block energy charges, small and medium general service energy charges, and peak energy charges for large and high demand general service have all been designed to move as close as possible to the marginal values of energy while maintaining a reasonable level of rate stability for customers and collecting no more than each class' revenue requirement.

Comparison of Current and Recommended Rates

The recommended rates are compared to current rates in sections devoted to each rate schedule in Chapter 2. When this report refers to "current rates," it generally means the rates that became effective November 1, 2005. However, "current rates" for the High Demand General Service Interruptible class are those effective January 1, 2005, and "current rates" for lights, pole attachments, vaults and ducts are those that were implemented March 1, 2002.

Average rates and bill increases/decreases calculated with the recommended rates and billing determinants presented in this report may differ slightly from average rates and rate changes presented in the *COSACAR*. These differences result partially from the fact that the recommended demand charges are rounded to whole cents and recommended energy charges are rounded to hundredths of a cent. When multiplied by billing determinants, the total dollars to be collected come as close as possible to the revenue requirement for each customer class but do not exactly equal that revenue requirement. In addition, bill changes for sample customers in each rate class are calculated using a recent prior year's consumption rather than forecasted consumption.

The recommended rates are consistent with current rates in the following ways:

1. The long-range rate-setting objectives of the City are the basis for determining the rates for each customer class. The objectives of revenue recovery, equity, economic efficiency, and rate stability continue to serve as the general guidelines in determining rates.

2. Year-round rates, rather than seasonally differentiated rates, initially adopted in March 2001, are maintained. The only element of seasonal differentiation

retained in rate schedules is the differing number of kilowatt-hours in each block of residential rate schedules. The amount of kilowatt-hours in each block, however, is also unchanged.

3. Suburban and Tukwila rates continue to be higher than City of Seattle rates because they incorporate differentials allowed in the franchise agreements. Suburban rates incorporate an 8% differential on the power portion of rates. Tukwila rates are higher than Suburban rates because the franchise agreement with that city permits a differential on both the power portion (8%) and the distribution portion (6%) of the rates. Most of the suburban premium is actually returned to the cities with which City Light has franchise agreements. Per the franchise agreements with the cities of Burien, Lake Forest Park, SeaTac and Shoreline, City Light pays those cities 6% of the revenues it collects from the power portion of rates. Per the franchise agreement with the city of Tukwila, City Light pays that city 6% of the revenues it collects from both the power and distribution portions of rates.

4. Residential rate schedules continue to have a three-block inverted rate structure, which includes increasingly higher second- and third-block prices as a signal to customers to conserve electricity. These rate schedules also retain the feature of a low first-block price as a further incentive for conservation.

5. Residential rate schedules retain the daily base service charge of the current rates.

6. Special lower rates have been provided for low-income customers. As in the current rates, the low-income prices are set at 40% of the regular Residential rate prices.

7. General service rate schedules continue to have flat rates for energy and demand charges; that is, they do not have different prices for increasing or decreasing blocks of energy or demand.

8. Small General Service rates continue to include only energy charges, while Medium, Large and High Demand General Service rates include both energy and demand charges.

9. Medium General Service demand charges remain unchanged.

10. Large General Service and High Demand General Service energy charges are differentiated by time of use, but demand charges are the same within peak and off-peak periods.

11. Network rates incorporate a differential based on the higher cost of network service compared to non-network service.

12. General service rate schedules, except those that apply to medium general service, lighting, power factor, pole attachments and duct or vault rentals, incorporate a daily minimum charge. This charge is set at the marginal customer cost plus taxes. Even though a minimum charge has been calculated for medium general service rate schedules, the charge cannot be used for billing until City Light's billing system can be changed to include it.

13. Streetlight and floodlight charges are set as a flat monthly fee.

14. The Power Factor rate and standard are unchanged.

15. The primary metering discount based on a reduction of billed kWh for customers metered on the utility's side of their transformer remains the same.

16. Pole attachment and duct/vault rental fees continue to be set based on City Light's costs for these services.

Though the recommended rates are similar to current rates, some modifications have been made. These are the result of changes in policy, costs, revenue requirements, and the values of energy since the last rate review. The overall strategy for setting rates was to set a rate as close as possible to the marginal value on that element of billing for customer consumption which was considered most "elastic" (i.e., most responsive with a change in consumption given a change in price) from an economic point of view—while adjusting other prices in a given rate schedule to collect the desired revenue requirement.

That means, for example, that the base service charge was not changed for the residential classes because keeping it low allowed the energy prices in the residential rate schedules to move or stay closer to the marginal value of energy. It also led to the reduction of the first-block energy price for City residential customers in order to meet the sub-class revenue requirement because that allowed the second- and third-block prices to remain closer to the marginal values of energy (to the system in the second-block case, and to the customer, which includes distribution, in the third-block case).

Following similar logic, the demand charges for the Medium General Service classes were left unchanged while those for Large and High Demand classes were raised, and the off-peak energy rates in the Large and High Demand General Service schedules were significantly reduced compared to the peak energy charges. These changes and their purpose in setting the most elastic portion of rates closer to the marginal value of energy are explained below.

The major changes are:

1. Residential rates: The degree of inversion (relationship of second-block to first-block energy rates) is changed. City rate schedules retain the second- and third-block charges of the current rate schedules, while reducing the first-block charge so that total charges collect the class revenue requirement, thereby increasing the

degree of inversion. Suburban rate schedules also retain the second- and third-block charges of the current rate schedules, but increase the first-block charge in order to recover the revenue requirement, thus decreasing the degree of inversion. Tukwila rate schedules retain the third-block charges of the current rate schedules, but increase first- and second-block charges in a way that maintains the second-block price at the marginal value of energy and raises the first-block price sufficiently to recover the revenue requirement. In the process, the degree of inversion in Tukwila rate schedules is decreased.

2. Small General Service rates: Energy charges have been decreased consistent with the forecasted revenue requirements, while the minimum charge has been increased slightly to recover the marginal customer cost. A Small Network General Service rate schedule has been added, as discussed previously.

3. Medium General Service rates: Demand charges have been held at their current level in order to allow energy charges to be set closer to marginal cost. Energy charges have been decreased in order to collect the forecasted revenue requirements.

4. Large and High Demand General Service: Peak demand charges have been increased to bring them closer to the marginal costs of the distribution system, while off-peak demand charges have been increased to be consistent with the recommended transformer investment discount. The differential between peak and off-peak energy charges has been increased from the marginal cost differential to a somewhat higher differential in order to set peak energy charges at a level closer to the marginal cost and thereby encourage conservation. Peak energy charges are lower than current charges in the Large City and High Demand rate schedules, but higher than current charges in the Large Suburban, Tukwila and Network schedules. As a result of setting peak energy charges at a higher level than would otherwise be the case because of the adjusted peak/off-peak differential, and also as a result of the higher demand charges, off-peak energy charges in all Large and High Demand rate schedules end up lower than off-peak energy charges in current schedules. All charges together recover the forecasted revenue requirement for each class.

5. Network rates: Rates for downtown Medium and Large Network customers continue to be higher than rates for Seattle customers outside the network in equivalent rate classes. Since 2002, they have incorporated 50% of the cost differential between network and non-network service. In this rate review, recommended network rates have been decreased, on average, because of changes in relative costs of service and a lower revenue requirement; however, the proposed rates are set to recover the full cost of service differential.

6. Streetlighting and floodlighting charges are increased substantially because of the recommended policy of setting all rates to recover each class' full cost of service.

In the past, streetlight rates benefited from the policy of gradualism, just as other customer classes have at various times.

7. The transformer investment discount, provided to customers who have purchased their own transformers on the basis of their maximum monthly demand, has been increased 4¢ per kilowatt (from 17¢ to 21¢ , or 23.5%), based on the most recently calculated marginal transformer costs.

8. Pole attachment and duct/vault rental fees have been increased substantially to be consistent with City Light's higher costs for these services. The recommended annual pole attachment fees have been increased 26% compared to the current fees. The annual rental fee for ducts has been increased 10%. The annual rental fee for vault space has been increased 13% for wall space and 10% for ceiling space.

1.3 Organization of the Report

The most important information in this report is contained in Chapters 1 and 2, the introduction and recommended rate schedules. Chapter 3 contains information about billing discounts. Chapters 4, 5 and 6 provide background and technical documentation relevant to the recommended rates, a history and comparison of City Light rates with those of other utilities, and an overview of the public involvement process carried out during the current rate review.

Chapter 2

Recommended Rate Schedules

2.1 Residential Rates

Residential rate design is guided by the City of Seattle Rate-Setting Objectives as set forth in Resolution 30685. They can be summarized as follows:

- Revenue requirements: rates should be set at a level to meet the residential class revenue requirements.
- Equity: rates should be based on the cost of service.
- Economic efficiency: rates should encourage the efficient use of electricity.
- Stability: rates should be changed in an orderly manner over time.

The seasonal marginal values of energy are used as a guideline in setting the level of the second-block prices in the residential rate schedules. However, second-block prices may not be set exactly at the marginal cost of energy if doing so would cause disproportionate rate impacts among customers.

The long-term goals are to establish rates with the second-block price set at marginal value of energy and the end-block price set at marginal value of energy and distribution. The marginal value of energy for 2007 is 8.79 cents per kWh. The marginal value of energy and distribution is 9.69 cents per kWh. To move to such a rate in one rate change would be too abrupt, causing disproportionate bill impacts for high-use customers. To preserve rate stability, this long-term goal can be achieved over a series of rate changes by moving the second-block prices closer to marginal value of energy.

City Standard Residential Recommended Rate Schedule RSC

Schedule RSC: City Standard Residential		
Block Limit/Month	**Current Rate Schedule RSC**	**Recommended Rate Schedule RSC**
Summer	**Price**	**Price**
1 - 300 kWh	4.06¢/kWh	3.82¢/kWh
301 - 3,000 kWh	8.39¢/kWh	8.39¢/kWh
All over 3,000 kWh	9.81¢/kWh	9.81¢/kWh
Winter	**Price**	**Price**
1 - 480 kWh	4.06¢/kWh	3.82 ¢/kWh
481 - 5,010 kWh	8.39¢/kWh	8.39¢/kWh
All over 5,010 kWh	9.81¢/kWh	9.81¢/kWh
Base Service Charge	$.0973/day	$.0973/day

Design Criteria for City Standard Residential Recommended Rate Schedule RSC

- Energy for each season is divided into three blocks, with a different price for each block. The rates are inverted, i.e., the second-block charge is higher than the first-block charge and the end-block price is higher than the second-block price.

- The first-block price is reduced by 5.91%, from 4.06¢/kWh to 3.82¢/kWh.

- The second- and end-block prices are frozen at the existing prices.

- The degree of inversion between the first- and second-block rates is increased from 2.07:1 in the current rates to 2.20:1 in the 2007-2008 recommended rates.

- There is no change in the $2.92 per month base service charge.

Impacts on City Standard Residential Customers' Bills

Level of consumption. The average percent decrease in customers' annual bills by level of consumption is greater for low-consumption customers. As consumption increases, the average percent decrease in customers' annual bills is reduced. Bill impacts for customers by different levels of consumption and usage are displayed in Table 2.1.

Customers with annual consumption of less than 4,680 kWh will receive the greatest decrease in their annual bills. The range of the decrease is from -0.1% to -4.2%. Approximately 46 percent of the customers would have estimated average annual bills of $302 or less.

Table 2.1

2007-2008 AVERAGE ANNUAL BILL IMPACT*
Schedule RSC: Standard Residential - City of Seattle

Summer Block	Block Limit	Current Rate	Summer Block	Block Limit	Recommended Rate
First Block	1-300 kWh	0.0406	First Block	1-300 kWh	0.0382
Second Block	301-3,000 kWh	0.0839	Second Block	301-3,000 kWh	0.0839
End-Block	Over 3,000 kWh	0.0981	End-Block	Over 3,000 kWh	0.0981
Winter Block	Block Limit	Rate	Winter Block	Block Limit	Rate
First Block	1-480 kWh	0.0406	First Block	1-480 kWh	0.0382
Second Block	481-5,010 kWh	0.0839	Second Block	481-5,010 kWh	0.0839
End-Block	Over 5,010 kWh	0.0981	End-Block	Over 5,010 kWh	0.0981
Base Service Charge/day		$0.0973			$0.0973

AVERAGE CHANGE IN CUSTOMERS' ANNUAL BILL BY LEVEL OF CONSUMPTION

Level of Consumption	Percent of Customers	Current Bill	Recommended Bill	Dollar Change	Percent Change
1 to 4,680 kWh	27.13	$161	$154	($7)	-4.2%
4,681 to 6,500 kWh	18.58	$313	$302	($11)	-3.4%
6,501 to 8,500 kWh	17.31	$461	$450	($11)	-2.4%
8,501 to 10,000 kWh	9.68	$606	$595	($11)	-1.9%
10,001 to 12,000 kWh	9.20	$749	$738	($11)	-1.5%
12,001 to 15,000 kWh	8.32	$950	$939	($11)	-1.2%
15,001 to 18,000 kWh	4.41	$1,202	$1,191	($11)	-0.9%
18,001 to 25,000 kWh	4.00	$1,566	$1,554	($11)	-0.7%
25,001 to 35,000 kWh	1.07	$2,222	$2,211	($11)	-0.5%
35,001 to 50,000 kWh	0.23	$3,215	$3,204	($11)	-0.4%
50,001 to 65,000 kWh	0.04	$4,635	$4,624	($11)	-0.2%
OVER 65,000 kWh	0.02	$9,456	$9,445	($11)	-0.1%

AVERAGE CHANGE IN CUSTOMERS' ANNUAL BILL BY LEVEL OF USAGE

Level of Usage	Current Bill	Recommended Bill	Dollar Change	Percent Change
Low User (1 to 4,056 kWh)	$141	$136	($6)	-4.2%
Medium User (4,057 to 12,168 kWh)	$463	$452	($11)	-2.3%
HighUser (Over 12,168 kWh)	$1,286	$1,275	($11)	-0.9%

*Average change in customers' bills is computed on the basis of 12 months on the current and recommended rates.

Average Bills. A comparison of average bills using actual 2005 consumption of all City of Seattle Standard Residential customers is provided below.

Average City Standard Residential Bill Impacts		
	Current Rate Schedule RSC	**Recommended Rate Schedule RSC**
Annual Bill	$538.14	$528.28
Annual Dollar Decrease		($9.86)
Monthly Summer Bill	$37.31	$36.67
Monthly Winter Bill	$52.38	$51.38
Monthly Bill	$44.85	$44.02

Suburban Standard Residential Recommended Rate Schedule RSS

Schedule RSS: Suburban Standard Residential		
Block Limit/Month	**Current Rate Schedule RSS**	**Recommended Rate Schedule RSS**
Summer	**Price**	**Price**
1 - 300 kWh	4.16¢/kWh	4.32¢/kWh
301 - 3,000 kWh	8.49¢/kWh	8.49¢/kWh
All over 3,000 kWh	9.91¢/kWh	9.91¢/kWh
Winter	**Price**	**Price**
1 - 480 kWh	4.16¢/kWh	4.32¢/kWh
481 - 5,010 kWh	8.49¢/kWh	8.49¢/kWh
All over 5,010 kWh	9.91¢/kWh	9.91¢/kWh
Base Service Charge	$.0973/day	$.0973/day

Design Criteria for Suburban Standard Residential Recommended Rate Schedule RSS

- Energy for each season is divided into three blocks, with a different price for each block. The rates are inverted, i.e., the second-block charge is higher than the first-block charge and the end-block price is higher than the second-block price.

- The first-block price is increased by 3.85%, from 4.16¢/kWh to 4.32¢/kWh.

- The second- and end-block prices are frozen at the existing prices.

- The degree of inversion between the first- and second-block rates is decreased from 2.04:1 in the current rates to 1.97:1 in the 2007-2008 recommended rates.

- There is no change in the $2.92 per month base service charge.

Impacts on Suburban Standard Residential Customers' Bills

Bill impacts for customers with different levels of consumption and usage are displayed in Table 2.2.

Level of consumption. The average percent increase in customers' annual bills by level of consumption is greater for low-consumption customers. As consumption increases, the average percent increase in customers' annual bills is reduced.

Customers with annual consumption of less than 4,680 kWh will receive the highest increase in their annual bills and customers with very high consumption will receive the lowest percentage increase in their average annual bills. The range of the increases is from 0.1% to 2.7%. A little over 43 percent of the customers would have estimated average annual bills of $479 or less.

Table 2.2

2007-2008 AVERAGE ANNUAL BILL IMPACT*
Schedule RSS: Standard Residential - Suburban

Summer Rates	Block Limit	Current Rate	Summer Rates	Block Limit	Recommended Rate
First Block	1-300 kWh	0.0416	First Block	1-300 kWh	0.0432
Second Block	301-3,000 kWh	0.0849	Second Block	301-3,000 kWh	0.0849
End-Block	Over 3,000 kWh	0.0991	End-Block	Over 3,000 kWh	0.0991
Winter Rates	Block Limit	Rate	Winter Rates	Block Limit	Rate
First Block	1-480 kWh	0.0416	First Block	1-480 kWh	0.0432
Second Block	481-5,010 kWh	0.0849	Second Block	481-5,010 kWh	0.0849
End-Block	Over 5,010 kWh	0.0991	End-Block	Over 5,010 kWh	0.0991
Base Service Charge/day		$0.0973			$0.0973

AVERAGE CHANGE IN CUSTOMERS' ANNUAL BILL BY LEVEL OF CONSUMPTION

Level of Consumption	Percent of Customers	Current Bill	Recommended Bill	Dollar Change	Percent Change
1 to 4,680 kWh	12.09	$175	$179	$5	2.7%
4,681 to 6,500 kWh	13.99	$321	$328	$7	2.2%
6,501 to 8,500 kWh	17.22	$471	$479	$7	1.6%
8,501 to 10,000 kWh	11.65	$617	$624	$7	1.2%
10,001 to 12,000 kWh	12.74	$762	$769	$8	1.0%
12,001 to 15,000 kWh	13.23	$967	$974	$8	0.8%
15,001 to 18,000 kWh	7.87	$1,221	$1,228	$8	0.6%
18,001 to 25,000 kWh	8.18	$1,597	$1,605	$8	0.5%
25,001 to 35,000 kWh	2.46	$2,251	$2,258	$8	0.3%
35,001 to 50,000 kWh	0.47	$3,210	$3,217	$8	0.2%
50,001 to 65,000 kWh	0.06	$4,732	$4,740	$8	0.2%
OVER 65,000 kWh	0.03	$7,756	$7,763	$8	0.1%

Level of Usage	Current Bill	2007 Bill	Dollar Change	Percent Change
Low User (1 to 5,337 kWh)	$202	$207	$5	2.6%
Medium User (5,338 to 16,011 kWh)	$662	$670	$7	1.1%
HighUser (Over 16,011 kWh)	$1,673	$1,681	$8	0.5%

*Average change in customers' bills is computed on the basis of 12 months on the current and recommended rates.

Average Bills. A comparison of average bills using actual consumption for all Suburban Standard Residential customers is provided below.

Average Suburban Standard Residential Bill Impacts		
	Current Rate Schedule RSS	**Recommended Rate Schedule RSS**
Annual Bill	$745.42	$752.53
Annual Dollar Increase		$7.11
Monthly Summer Bill	$51.24	$51.70
Monthly Winter Bill	$73.00	$73.72
Monthly Bill	$62.12	$62.71

Tukwila Standard Residential Recommended Rate Schedule RST

Schedule RST: Tukwila Standard Residential		
Block Limit/Month	**Current Rate Schedule RST**	**Recommended Rate Schedule RST**
Summer	**Price**	**Price**
1 - 300 kWh	4.39¢/kWh	4.81¢/kWh
301 - 3,000 kWh	8.72¢/kWh	8.79¢/kWh
All over 3,000 kWh	10.14¢/kWh	10.14¢/kWh
Winter	**Price**	**Price**
1 - 480 kWh	4.39¢/kWh	4.81¢/kWh
481 - 5,010 kWh	8.72¢/kWh	8.79¢/kWh
All over 5,010 kWh	10.14¢/kWh	10.14¢/kWh
Base Service Charge	$.0973/day	$.0973/day

Design Criteria for Tukwila Standard Residential Recommended Rate Schedule RST

- Energy for each season is divided into three blocks, with a different price for each block. The rates are inverted, i.e., the second-block charge is higher than the first-block charge and the end-block price is higher than the second-block price.

- The first-block price is increased by 9.57%, from 4.39¢/kWh to 4.81¢/kWh.

- The second-block price is increased from the existing price of 8.72¢/kWh to the marginal value of energy of 8.79¢/kWh.

- The end-block price is frozen at the existing price of 10.14¢/kWh.

- The degree of inversion between the first- and second-block rates is decreased from 1.99:1 in the current rates to 1.83:1 in the 2007-2008 recommended rates.

- There is no change in the $2.92 per month base service charge.

Impacts on Tukwila Standard Residential Customers' Bills

Bill impacts for customers by different levels of consumption and usage are displayed in Table 2.3.

Level of consumption. The average percent increase in customers' annual bills by level of consumption is higher for low-consumption customers. As consumption increases, the average percent increase in customers' annual bills decreases.

Customers with annual consumption of less than 4,680 kWh will receive the highest increase in their annual bills and customers with consumption over 65,000 will receive the lowest percentage increase in their average annual bills. The range of the increases is from 0.7% to 6.7%. About 52 percent of the customers would have estimated average annual bills of $508 or less.

Average Bills. A comparison of average bills using actual consumption for all Tukwila Residential customers is provided below.

Average Tukwila Standard Residential Bill Impacts		
	Current Rate Schedule RST	**Recommended Rate Schedule RST**
Annual Bill	$650.61	$672.16
Annual Dollar Increase		$21.55
Monthly Summer Bill	$44.18	$45.59
Monthly Winter Bill	$64.26	$66.44
Monthly Bill	$54.22	$56.01

Table 2.3

2007-2008 AVERAGE ANNUAL BILL IMPACT*
Schedule RST: Standard Residential - City of Tukwila

Summer Rates	Block Limit	Current Rate	Summer Rates	Block Limit	Recommended Rate
First Block	1-300 kWh	0.0439	First Block	1-300 kWh	0.0481
Second Block	301-3,000 kWh	0.0872	Second Block	301-3,000 kWh	0.0879
End-Block	Over 3,000 kWh	0.1014	End-Block	Over 3,000 kWh	0.1014
Winter Rates	Block Limit	Rate	Winter Rates	Block Limit	Rate
First Block	1-480 kWh	0.0439	First Block	1-480 kWh	0.0481
Second Block	481-5,010 kWh	0.0872	Second Block	481-5,010 kWh	0.0879
End-Block	Over 5,010 kWh	0.1014	End-Block	Over 5,010 kWh	0.1014
Base Service Charge/day		$0.0973			$0.0973

AVERAGE CHANGE IN CUSTOMERS' ANNUAL BILL BY LEVEL OF CONSUMPTION

Level of Consumption	Percent of Customers	Current Bill	Recommended Bill	Dollar Change	Percent Change
1 to 4,680 kWh	16.11	$184	$196	$12	6.7%
4,681 to 6,500 kWh	16.07	$336	$356	$19	5.7%
6,501 to 8,500 kWh	19.58	$487	$508	$21	4.4%
8,501 to 10,000 kWh	11.83	$638	$660	$23	3.6%
10,001 to 12,000 kWh	13.04	$785	$809	$24	3.1%
12,001 to 15,000 kWh	11.70	$994	$1,020	$26	2.6%
15,001 to 18,000 kWh	5.77	$1,250	$1,278	$28	2.2%
18,001 to 25,000 kWh	4.83	$1,648	$1,679	$31	1.9%
25,001 to 35,000 kWh	0.88	$2,292	$2,329	$36	1.6%
35,001 to 50,000 kWh	0.13	$3,083	$3,125	$42	1.4%
50,001 to 65,000 kWh	0.02	$5,533	$5,584	$51	0.9%
OVER 65,000 kWh	0.04	$6,964	$7,015	$51	0.7%

AVERAGE CHANGE IN CUSTOMERS' ANNUAL BILL BY LEVEL OF USAGE

Level of Usage	Current Bill	Recommended Bill	Dollar Change	Percent Change
Low User (1 to 4,601 kWh)	$182	$193	$11	5.8%
Medium User (4,602 to 13,804 kWh)	$590	$607	$17	2.9%
HighUser (Over 13,804 kWh)	$1,441	$1,456	$15	1.0%

*Average change in customers' bills is computed on the basis of 12 months on the current and recommended rates.

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Summary of Standard Residential Rate Changes and Bill Impacts

The table below summarizes and compares the changes in standard Residential rates and the impacts on customers' bills, and also shows average 2005 kWh consumption.

	City of Seattle	Suburbs	Tukwila
First-block price	Decreased	Increased	Increased
Second-block price	No change	No change	Increased
Third-block price	No change	No change	No change
Degree of inversion*	Increased	Decreased	Decreased
Average annual % bill change	-2.2%	0.8%	2.8%
Range of % bill changes	-0.1% to -4.2%	0.1% to 2.7%	0.7% to 6.7%
% bill change-lowest consumption	-4.2%	2.7%	6.7%
% bill change-highest consumption	-0.1%	0.1%	0.7%
Average annual $ bill change	($9.86)	$7.11	$21.55
Average monthly $ bill change	($0.82)	$0.59	$1.80
Average annual use-2005 kWh	8,112	10,675	9,203

*Difference between second- and first-block prices.

Because of the way that block prices are changed in the recommended rates, customers with approximately the same level of consumption are expected to be affected differently in the three jurisdictions:

- City of Seattle: The first-block price is decreased, so customers with all or most of their consumption in the first block will receive the largest bill decreases. There is no change in the other block prices. Therefore, customers with higher consumption will receive progressively smaller bill decreases as their consumption increases, because a progressively smaller proportion of their total consumption is in the first block.

- Suburbs and Tukwila: The first-block price is increased, so customers with all or most of their consumption in the first block will receive the largest bill increases. There is no change in the suburban second-block price and only a minimal change in the Tukwila second-block price. Therefore, customers with higher consumption will receive progressively smaller bill increases as their consumption increases because a progressively smaller proportion of their total consumption is in the first block.

2.2 Residential Rate Assistance

Seattle Rate Assistance Recommended Rate Schedules REC/RLC

Schedule REC: Residential Elderly/Disabled - City of Seattle and Schedule RLC: Residential Low-Income - City of Seattle		
Block Limit/Month	**Current Rate Schedules REC/RLC**	**Recommended Rate Schedules REC/RLC**
Summer	**Price**	**Price**
1 - 300 kWh	1.70¢/kWh	1.61¢/kWh
301 - 3,000 kWh	3.10¢/kWh	3.10¢/kWh
All over 3,000 kWh	3.91¢/kWh	3.91¢/kWh
Winter	**Price**	**Price**
1 - 480 kWh	1.70¢/kWh	1.61¢/kWh
481 - 5,010 kWh	3.10¢/kWh	3.10¢/kWh
All over 5,010 kWh	3.91¢/kWh	3.91¢/kWh
Base Service Charge	$.0487/day	$.0487/day

Design Criteria.

- Energy for each season is divided into three blocks, with a different price for each block. The rates are inverted, i.e., the second-block charge is higher than the first-block charge and the end-block price is higher than the second-block price.

- The first-block price is reduced by 5.29%, from 1.70¢/kWh to 1.61¢/kWh.

- The second- and end-block prices are frozen at the existing prices.

- The degree of inversion between the first- and second-block rates is increased from 1.82:1 in the current rates to 1.93:1 in the 2007-2008 recommended rates.

- There is no change in the $1.46 per month base service charge.

Impacts on Seattle Rate Assistance Customers' Bills

Level of consumption. The average percent decrease in customers' annual bills by level of consumption is higher for customers with low consumption. As customers increase in consumption, the average percent decrease in their annual bill decreases. Bill impacts for customers by different levels of consumption and usage are displayed in Table 2.4.

Customers with annual consumption of less than 4,680 kWh will receive the greatest decrease in their annual bills. The range of the decrease is from -0.3% to -3.8 %. Approximately 49 percent of the customers would have estimated average annual bills of $180 or less.

Table 2.4

2007-2008 AVERAGE ANNUAL BILL IMPACT*
Schedule REC/RLC: Residential Rate Assistance - City of Seattle

Summer Rates	Block Limit	Current Rate	Summer Rates	Block Limit	Recommended Rate
First Block	1-300 kWh	0.0170	First Block	1-300 kWh	0.0161
Second Block	301-3,000 kWh	0.0310	Second Block	301-3,000 kWh	0.0310
End-Block	Over 3,000 kWh	0.0391	End-Block	Over 3,000 kWh	0.0391
Winter Rates	Block Limit	Rate	Winter Rates	Block Limit	Rate
First Block	1-480 kWh	0.0170	First Block	1-480 kWh	0.0161
Second Block	481-5,010 kWh	0.0310	Second Block	481-5,010 kWh	0.0310
End-Block	Over 5,010 kWh	0.0391	End-Block	Over 5,010 kWh	0.0391
Base Service Charge/day		$0.0487			$0.0487

AVERAGE CHANGE IN CUSTOMERS' ANNUAL BILL BY LEVEL OF CONSUMPTION

Level of Consumption	Percent of Customers	Current Bill	Recommended Bill	Dollar Change	Percent Change
1 to 4,680 kWh	15.89	$78	$75	($3)	-3.8%
4,681 to 6,500 kWh	16.53	$128	$124	($4)	-3.2%
6,501 to 8,500 kWh	16.69	$184	$180	($4)	-2.3%
8,501 to 10,000 kWh	10.15	$238	$234	($4)	-1.8%
10,001 to 12,000 kWh	11.79	$291	$286	($4)	-1.5%
12,001 to 15,000 kWh	11.20	$366	$362	($4)	-1.2%
15,001 to 18,000 kWh	7.33	$459	$454	($4)	-0.9%
18,001 to 25,000 kWh	7.49	$597	$593	($4)	-0.7%
25,001 to 35,000 kWh	2.56	$830	$826	($4)	-0.5%
35,001 to 50,000 kWh	0.31	$1,164	$1,160	($4)	-0.4%
OVER 50,000 kWh	0.06	$1,484	$1,480	($4)	-0.3%

AVERAGE CHANGE IN CUSTOMERS' ANNUAL BILL BY LEVEL OF USAGE

Level of Usage	Current Bill	Recommended Bill	Dollar Change	Percent Change
Low User (1 to 6,295 kWh)	$83	$80	($3)	-3.8%
Medium User (6,296 to 18,886 kWh)	$234	$230	($4)	-1.8%
High User (Over 18,886 kWh)	$589	$585	($4)	-0.7%

*Average change in customers' bills is computed on the basis of 12 months on the current and recommended rates.

Average Bills. A comparison of average bills using actual 2005 consumption for all City of Seattle residential rate assistance customers is provided below.

Average Seattle Residential Rate Assistance Bill Impacts		
	Current Rate Schedule REC/RLC	**Recommended Rate Schedule REC/RLC**
Annual Bill	$267.58	$263.58
Annual Dollar Decrease		($4.00)
Monthly Summer Bill	$17.65	$17.55
Monthly Winter Bill	$26.79	$26.38
Monthly Bill	$22.30	$21.97

Suburban Rate Assistance Recommended Rate Schedules RES/RLS

Schedule RES: Residential Elderly/Disabled - Suburban and Schedule RLS: Residential Low-Income - Suburban		
Block Limit/Month	**Current Rate Schedules RES/RLS**	**Recommended Rate Schedules RES/RLS**
Summer	**Price**	**Price**
1 - 300 kWh	1.75¢/kWh	1.82¢/kWh
301 - 3,000 kWh	3.15¢/kWh	3.15¢/kWh
All over 3,000 kWh	3.96¢/kWh	3.96¢/kWh
Winter	**Price**	**Price**
1 - 480 kWh	1.75¢/kWh	1.82¢/kWh
481 - 5,010 kWh	3.15¢/kWh	3.15¢/kWh
All over 5,010 kWh	3.96¢/kWh	3.96¢/kWh
Base Service Charge	$.0487/day	$.0487/day

Design Criteria.

- Energy for each season is divided into three blocks, with a different price for each block. The rates are inverted, i.e., the second-block charge is higher than the first-block charge and the end-block price is higher than the second-block price.

- The first-block price is increased by 4.00% percent, from 1.75¢/kWh to 1.82¢/kWh.

- The second- and end-block prices are frozen at the existing prices.

- The degree of inversion between the first- and second-block rates is decreased from 1.80:1 in the current rates to 1.73:1 in the 2007-2008 recommended rates.

- There is no change in the $1.46 per month base service charge.

Impacts on Suburban Rate Assistance Customers' Bills

Bill impacts for customers with different levels of consumption and usage are displayed in Table 2.5.

Level of consumption. The average percent increase in customers' annual bills is higher for low-consumption customers. As customers increase their consumption, the average percent increase in their annual bill decreases.

Customers with annual consumption of less than 4,680 kWh will receive the highest increase in their annual bills. The range of the increase is from 0.2% to 2.9%. A little over 43 percent of the customers would have estimated average annual bills of $246 or less.

Table 2.5

2007-2008 AVERAGE ANNUAL BILL IMPACT*
Schedule RES/RLS: Residential Rate Assistance - Suburban

Summer Rates	Block Limit	Current Rate	Summer Rates	Block Limit	Recommended Rate
First Block	1-300 kWh	0.0175	First Block	1-300 kWh	0.0182
Second Block	301-3,000 kWh	0.0315	Second Block	301-3,000 kWh	0.0315
End-Block	Over 3,000 kWh	0.0396	End-Block	Over 3,000 kWh	0.0396
Winter Rates	**Block Limit**	**Rate**	**Winter Rates**	**Block Limit**	**Rate**
First Block	1-480 kWh	0.0175	First Block	1-480 kWh	0.0182
Second Block	481-5,010 kWh	0.0315	Second Block	481-5,010 kWh	0.0315
End-Block	Over 5,010 kWh	0.0396	End-Block	Over 5,010 kWh	0.0396
Base Service Charge/day		$0.0487			$0.0487

AVERAGE CHANGE IN CUSTOMERS' ANNUAL BILL BY LEVEL OF CONSUMPTION

Level of Consumption	Percent of Customers	Current Bill	Recommended Bill	Dollar Change	Percent Change
1 to 4,680 kWh	5.78	$84	$86	$2	2.9%
4,681 to 6,500 kWh	10.50	$132	$135	$3	2.4%
6,501 to 8,500 kWh	15.25	$188	$191	$3	1.7%
8,501 to 10,000 kWh	11.81	$242	$246	$3	1.4%
10,001 to 12,000 kWh	12.91	$297	$300	$3	1.1%
12,001 to 15,000 kWh	14.45	$372	$375	$3	0.9%
15,001 to 18,000 kWh	10.72	$468	$471	$3	0.6%
18,001 to 25,000 kWh	12.73	$611	$614	$3	0.5%
25,001 to 35,000 kWh	4.97	$851	$854	$3	0.4%
35,001 to 50,000 kWh	0.66	$1,216	$1,219	$3	0.3%
Over 50,000 kWh	0.22	$1,506	$1,509	$3	0.2%

AVERAGE CHANGE IN CUSTOMERS' ANNUAL BILL BY LEVEL OF USAGE

Level of Usage	Current Bill	Recommended Bill	Dollar Change	Percent Change
Low User (1 to 6,295 kWh)	$112	$115	$3	2.6%
Medium User (6,296 to 18,886 kWh)	$311	$314	$3	1.1%
High User (Over 18,886 kWh)	$729	$732	$3	0.5%

*Average change in customers' bills is computed on the basis of 12 months on the current and recommended rates.

Average Bills. A comparison of average bills using actual 2005 consumption for all Suburban residential rate assistance customers is provided below.

Average Suburban Residential Rate Assistance Bill Impacts		
	Current Rate Schedule RES/RLS	**Recommended Rate Schedule RES/RLS**
Annual Bill	$349.60	$352.84
Annual Dollar Increase		$3.24
Monthly Summer Bill	$22.63	$22.84
Monthly Winter Bill	$35.64	$35.97
Monthly Bill	$29.13	$29.40

Tukwila Rate Assistance Recommended Rate Schedules RET/RLT

Schedule RET: Residential Elderly/Disabled - Tukwila and Schedule RLT: Residential Low-Income - Tukwila		
Block Limit/Month	**Current Rate Schedules RET/RLT**	**Recommended Rate Schedules RET/RLT**
Summer	**Price**	**Price**
1 - 300 kWh	1.86¢/kWh	2.04¢/kWh
301 - 3,000 kWh	3.26¢/kWh	3.29¢/kWh
All over 3,000 kWh	4.07¢/kWh	4.07¢/kWh
Winter	**Price**	**Price**
1 - 480 kWh	1.86¢/kWh	2.04¢/kWh
481 - 5,010 kWh	3.26¢/kWh	3.29¢/kWh
All over 5,010 kWh	4.07¢/kWh	4.07¢/kWh
Base Service Charge	$.0487/day	$.0487/day

Design Criteria.

- Energy for each season is divided into three blocks, with a different price for each block. The rates are inverted, i.e., the second-block charge is higher than the first-block charge and the end-block price is higher than the second-block price.

- The first-block price is increased by 9.68%, from 1.86¢/kWh to 2.04¢/kWh.

- The second-block price is increased by 0.92%, from 3.26¢/kWh to 3.29¢/kWh.

- The end-block price is frozen at the existing price.

- The degree of inversion between the first- and second-block rates is decreased from 1.75:1 in the current rates to 1.61:1 in the 2007-2008 recommended rates.

- There is no change in the $1.46 per month base service charge.

Impacts on Tukwila Rate Assistance Customers' Bills

Bill impacts for customers with different levels of consumption and usage are displayed in Table 2.6.

Level of consumption. The average percent increase in customers' annual bills by level of consumption is higher for low-consumption customers. As customers increase their consumption, the average percent increase in their annual bill decreases.

The range of the increase is from 1.8% to 7.2%, with low-consumption customers receiving the largest percentage increase in their average annual bills. Customers with average annual consumption over 25,000 kWh would see an increase of 1.8% in their average annual bills.

Customers with annual consumption of less than 4,680 kWh will receive the highest increase in their annual bills. The range of the increase is from 1.8% to 7.2%. About 44 percent of the customers would have estimated average annual bills of $263 or less.

Average Bills. A comparison of average bills using actual 2005 consumption for Tukwila residential rate assistance customers is provided below.

Average Tukwila Residential Rate Assistance Bill Impacts

	Current Rate Schedule RET/RLT	Recommended Rate Schedule RET/RLT
Annual Bill	$339.92	$350.39
Annual Dollar Increase		$10.47
Monthly Summer Bill	$22.49	$23.17
Monthly Winter Bill	$34.16	$35.23
Monthly Bill	$28.30	$29.23

Table 2.6

2007-2008 AVERAGE ANNUAL BILL IMPACT*
Schedule RET/RLT: Residential Rate Assistance - City of Tukwila

Summer Rates	Block Limit	Current Rate	Summer Rates	Block Limit	Recommended Rate
First Block	1-300 kWh	0.0186	First Block	1-300 kWh	0.0204
Second Block	301-3,000 kWh	0.0326	Second Block	301-3,000 kWh	0.0329
End-Block	Over 3,000 kWh	0.0407	End-Block	Over 3,000 kWh	0.0407
Winter Rates	**Block Limit**	**Rate**	**Winter Rates**	**Block Limit**	**Rate**
First Block	1-480 kWh	0.0186	First Block	1-480 kWh	0.0204
Second Block	481-5,010 kWh	0.0326	Second Block	481-5,010 kWh	0.0329
End-Block	Over 5,010 kWh	0.0407	End-Block	Over 5,010 kWh	0.0407
Base Service Charge/day		$0.0487			$0.0487

AVERAGE CHANGE IN CUSTOMERS' ANNUAL BILL BY LEVEL OF CONSUMPTION

Level of Consumption	Percent of Customers	Current Bill	Recommended Bill	Dollar Change	Percent Change
1 to 4,680 kWh	6.52	$91	$98	$7	7.2%
4,681 to 6,500 kWh	7.76	$145	$153	$8	5.7%
6,501 to 8,500 kWh	18.94	$196	$205	$9	4.7%
8,501 to 10,000 kWh	10.56	$254	$263	$10	3.9%
10,001 to 12,000 kWh	17.70	$313	$323	$10	3.3%
12,001 to 15,000 kWh	11.80	$384	$395	$11	2.9%
15,001 to 18,000 kWh	13.35	$482	$494	$12	2.5%
18,001 to 25,000 kWh	10.25	$645	$659	$13	2.1%
Over 25,000 kWh	3.11	$890	$906	$16	1.8%

AVERAGE CHANGE IN CUSTOMERS' ANNUAL BILL BY LEVEL OF USAGE

Level of Usage	Current Bill	Recommended Bill	Dollar Change	Percent Change
Low User (1 to 5,934 kWh)	$105	$113	$7	6.8%
Medium User (5,935 to 17,802 kWh)	$306	$317	$10	3.4%
High User (Over 17,802 kWh)	$695	$708	$14	2.0%

*Average change in customers' bills is computed on the basis of 12 months on the current and recommended rates.

Summary of Residential Rate Assistance Rate Changes and Bill Impacts

The table below summarizes and compares the changes in Residential rate assistance rates and the impacts on customers' bills, and also shows average 2005 kWh consumption.

	City of Seattle	Suburbs	Tukwila
First-block price	Decreased	Increased	Increased
Second-block price	No change	No change	Increased
Third-block price	No change	No change	No change
Degree of inversion*	Increased	Decreased	Decreased
Average annual % bill change	-1.5%	0.9%	3.0%
Range of % bill changes	-0.3% to -3.8%	0.2% to 2.9%	1.8% to 7.2%
% bill change-lowest consumption	-3.8%	2.9%	7.2%
% bill change-highest consumption	-0.3%	0.2%	1.8%
Average annual $ bill change	($4.00)	$3.24	$10.47
Average monthly $ bill change	($0.33)	$0.27	$0.87
Average annual use-2005 kWh	10,074	12,591	11,868
% higher kWh consumption than standard residential	24%	18%	29%

*Difference between second- and first-block prices.

Because of the way that block prices are changed in the recommended rates, rate assistance customers with approximately the same level of consumption are expected to be affected differently in the three jurisdictions:

- City of Seattle: The first-block price is decreased, so customers with all or most of their consumption in the first block will receive the largest bill decreases. There is no change in the other block prices. Therefore, customers with higher consumption will receive progressively smaller bill decreases as their consumption increases, because a progressively smaller proportion of their total consumption is in the first block.

- Suburbs and Tukwila: The first-block price is increased, so customers with all or most of their consumption in the first block will receive the largest bill increases. There is no change in the suburban second-block price and only a minimal change in the Tukwila second-block price. Therefore, customers with higher consumption will receive progressively smaller bill increases as their consumption increases because a progressively smaller proportion of their total consumption is in the first block.

Cost of the Rate Assistance Program

The 2007-2008 cost of rate assistance under the current and recommended rates is shown below. The costs do not include the cost of free account change service and trouble call service provided for rate assistance customers.

Estimated Cost of Seattle Rate Assistance and the Average Benefit per Customer for 2007-2008			
Years	**2007-2008 Benefit per Customer**	**No. of Customers 2007-2008**	**Total Cost of Rate Assistance**
2007-2008	$433	21,000	$9,096,497

Estimated Cost of Suburban Rate Assistance and the Average Benefit per Customer for 2007-2008			
Years	**2007-2008 Benefit per Customer**	**No. of Customers 2007-2008**	**Total Cost of Rate Assistance**
2007-2008	$528	6,148	$3,246,454

Estimated Cost of Tukwila Rate Assistance and the Average Benefit per Customer for 2007-2008			
Years	**2007-2008 Benefit per Customer**	**No. of Customers 2007-2008**	**Total Cost of Rate Assistance**
2007-2008	$520	760	$393,662

2.3 Small General Service Rates

SMALL GENERAL SERVICE Customers With Less Than 50 kW of Monthly Demand		
Small General Service: City (SMC) and Small Network General Service (SMD)		
	Current	**Recommended 2007-2008**
All energy	5.86¢/kWh	5.73¢/kWh
Minimum Charge	$0.20/day	$0.23/day
Small General Service: Suburban (SMS)		
	Current	**Recommended 2007-2008**
All energy	5.97¢/kWh	5.98¢/kWh
Minimum Charge	$0.20/day	$0.23/day
Small General Service: Tukwila (SMT)		
	Current	**Recommended 2007-2008**
All energy	6.16¢/kWh	6.11¢/kWh
Minimum Charge	$0.20/day	$0.23/day

Design Criteria.

- Separate rates have been designed for City, Suburban and Tukwila customers.
- Energy charges are flat throughout the year.
- There are no demand charges.
- There is no customer charge; for each year, a minimum charge is set at the marginal customer cost per meter per month, plus taxes, rounded to the nearest whole dollar, and is the same for City, Suburban and Tukwila customers.

Discussion. The 2007-2008 recommended Small General Service rates retain the structure of the present Small General Service rates; there is a different rate for City, Suburban and Tukwila customers. The monthly minimum charge is $1.00 (17%) more than the minimum charge under the current Small General Service rates because customer costs have increased since the last rate review in 1999. The minimum charge calculated for 2007-2008 was $7.28, and was rounded to the nearest dollar (i.e., $7.00). There are no demand charges for this class because most Small General Service customers have such low levels of demand that the expense of installation and maintenance of demand meters is not justified.

There is no seasonal rate differential; both summer and winter rates are the same. The recommended energy charges per kWh are much less than the marginal costs, as shown below:

2007-2008			
Marginal Cost/kWh (w/Taxes)	**Recommended City Rate**	**Recommended Suburban Rate**	**Recommended Tukwila Rate**
10.60¢	5.73¢	5.98¢	6.11¢

Under the recommended rates, the average rates will change over the previous average rates by the percentages shown below.

SMALL GENERAL SERVICE Current vs. Recommended Average Rates		
City (SMC)		
Average Rates (¢/kWh)		**Percentage Change**
Current	2007-2008	-2.30%
5.86	5.73	
Suburban (SMS)		
Average Rates (¢/kWh)		**Percentage Change**
Current	2007-2008	+0.16%
5.97	5.98	
Tukwila (SMT)		
Average Rates (¢/kWh)		**Percentage Change**
Current	2007-2008	-0.89%
6.16	6.11	

Impact of Recommended Rates. The 2007-2008 cost allocation calls for a 2.3% average decrease in rates for Small General Service: City (SMC) customers, a 0.16% average increase for Small General Service: Suburban (SMS) customers, and a 0.89% average decrease for Small General Service: Tukwila (SMT) customers. Table 2.7 shows how the annual bills of customers with different consumption levels will be affected by the recommended rates. These customers were chosen to demonstrate a range of consumption from the average to the extreme, in terms of seasonal patterns and absolute amount, as well as diversity of customer types. The percent of difference in the annual bill varies from customer to customer principally because of differences in consumption amounts.

The customers with the lowest consumption in all three Small General Service sub-classes will have the highest increases in 2007-2008, since the minimum charge is

increased by 17% and many of those customers receive the minimum charge for all or most of their bills. For those with average consumption or higher, the decreases will be about -2.3% for City and -0.9% for Tukwila customers. Suburban customers with average consumption or higher will have increases around 0.2%.

Annual bill changes by percent, under the Recommended Rates, were calculated for Small General Service customers who had at least 350 days of billed consumption in 2005. The results are summarized below.

SMALL GENERAL SERVICE
Impacts of Recommended Rates on Annual Bills

	2007-2008		
	City	Suburban	Tukwila
Class Average	+0.06%	+1.99%	+0.75%
Range of Changes	(2.2%) - +16.7%	+0.2% - +16.7%	(0.8%) - +16.7%

*Average changes differ from recommended average changes because they are based on all Small General Service customers' 2005 consumption amounts and patterns of use.

In 2007-2008, the majority (74%) of City customers will have a rate decrease in the range of -0.1% to -2.2%. The majority of Suburban customers will have a rate increase in the range of 0.2% to 1.0%. Most Tukwila customers will have a rate decrease in the -0.1% to -0.8% range.

Table 2.7

ANNUAL BILL IMPACT
SMALL GENERAL SERVICE - CITY
RECOMMENDED RATES

CITY (SMC)

	Current Rates (11/1/05)	Recommended 2007-08 Rates
kWh	$0.0586	$0.0573
Minimum Monthly Bill	$6.00	$7.00

Customer	Load Characteristics	Annual MWh	Annual Bill at Current Rates (11/1/05)	Annual Bill at Recommended Rates (1/1/07)	Percentage Change
Photographer	Low consump.,all minimum bills	307	$ 72	$ 84	16.7%
Apt. common area	Low consump.,all minimum bills	550	72	84	16.7%
Upholsterer	Mostly minimum bills	988	80	89	12.0%
Church	Low consump., higher winter	7,040	414	420	1.4%
Magazine publisher	Avg. consump.,consistent load	26,131	1,531	1,496	-2.3%
Jeweler	Avg. consump.,consistent load	24,188	1,417	1,385	-2.3%
Bakery	Avg. consump.,higher winter	26,193	1,535	1,500	-2.3%
Post Office	High summer consumption	38,520	2,257	2,205	-2.3%
Amusement park	High consump.,consistent load	670,507	39,292	38,390	-2.3%
Telecommunications	High consumption	2,721,868	159,501	155,840	-2.3%

SUBURBS (SMS)

	Current Rates (11/1/05)	Recommended 2007-08 Rates
kWh	$0.0597	$0.0598
Minimum Monthly Bill	$6.00	$7.00

Customer	Load Characteristics	Annual MWh	Annual Bill at Current Rates (11/1/05)	Annual Bill at Recommended Rates (1/1/07)	Percentage Change
Publisher	All minimum bills	383	$ 72	$ 84	16.7%
Hardware supplies	Low consump., mostly minimum bills	1,468	96	101	4.3%
Cemetery	Low consump., higher summer	5,393	322	322	0.2%
Dry cleaners	Avg. consump.,consistent load	24,889	1,486	1,488	0.2%
Health services	Avg. consump.,higher winter	25,001	1,493	1,495	0.2%
Beauty salon	Avg. consump., low spring load	25,146	1,501	1,504	0.2%
Auto supply store	High summer consumption	29,741	1,776	1,778	0.2%
Church	High winter consumption	45,480	2,715	2,720	0.2%
Casino	High consumption	342,160	20,427	20,460	0.2%
Grocery store	High consump., consistent load	534,000	31,880	31,932	0.2%

TUKWILA (SMT)

	Current Rates (11/1/05)	Recommended 2007-08 Rates
kWh	$0.0616	$0.0611
Minimum Monthly Bill	$6.00	$7.00

Customer	Load Characteristics	Annual MWh	Annual Bill at Current Rates (11/1/05)	Annual Bill at Recommended Rates (1/1/07)	Percentage Change
Public garden	Low consump.,all minimum bills	967	$ 72	$ 84	16.7%
City government office	Low consump.,mostly minimum bills	1,193	83	96	15.5%
Community health service	Low consump., higher summer	6,280	387	383	-0.9%
County road service	High winter load	20,650	1,272	1,261	-0.9%
Auto upholstery	Avg. consump.,consistent load	32,139	1,980	1,962	-0.9%
Police department	Avg. consump.,high winter load	32,960	2,030	2,012	-0.9%
Restaurant	Avg. consump., higher summer	33,177	2,044	2,026	-0.9%
Parcel delivery service	High summer load	89,822	5,533	5,484	-0.9%
Gasoline service station	High consump.,consistent load	208,680	12,855	12,740	-0.9%
IT services	High consump.,higher winter	732,400	45,116	44,715	-0.9%

2.4 Medium General Service Rates

MEDIUM GENERAL SERVICE Customers With 50 kW Up to 1,000 kW of Monthly Demand		
Medium Standard General Service: City (MDC)		
	Current	**Recommended 2007-2008**
All energy	5.67¢/kWh	4.85¢/kWh
All kW of maximum demand	$1.03/kW	$1.03/kW
Medium Standard General Service: Suburban (MDS)		
	Current	**Recommended 2007-2008**
All energy	5.78¢/kWh	5.23¢/kWh
All kW of maximum demand	$1.03/kW	$1.03/kW
Medium Standard General Service: Tukwila (MDT)		
	Current	**Recommended 2007-2008**
All energy	5.98¢/kWh	5.35¢/kWh
All kW of maximum demand	$1.03/kW	$1.03/kW
Medium Network General Service (MDD)		
	Current	**Recommended 2007-2008**
All energy	6.16¢/kWh	5.72¢/kWh
All kW of maximum demand	$1.59/kW	$1.59/kW

Design Criteria.

- Separate rates have been designed for City, Suburban, Tukwila, and Downtown Network customers (hereinafter referred to as Network customers).

- Energy charges are flat throughout the year (i.e., there are no block rates).

- At the present time, there is no customer charge nor minimum charge. At such time as the Customer Consolidated Service System is capable of calculating the minimum threshold (based on both energy and demand charges), a minimum charge will be applied. The minimum charge will be set at the marginal customer cost per meter per month, plus taxes, rounded to the nearest whole dollar, and will be the same for all subclasses (City, Suburban, Tukwila and Network).

Discussion. Energy charges are flat within each season but different for each subclass. Demand charges are 54% higher for the Network subclass. The proposed *monthly* minimum charge, when it becomes effective, will be $18.00. The monthly minimum charge will actually be applied as a daily charge ($18.00 divided by 30 days = $0.60 per day) to accommodate varying billing periods.

The current demand charges are based on procedures established in the 1989 *Nonresidential Rate Design Study* (updated in 1999). The demand and energy rates determined through application of the method used in this study are scaled up or down, each by the same percentage, to meet the revenue requirement for each Medium General Service subclass. The scaling process for the demand and energy charges ignores the customer component of costs for the class. In the interest of rate stability, and to allow energy charges to be set as close as possible to marginal cost, the recommended demand charges have been maintained at the current level.

In 2007-2008, all Medium General Service subclasses have average annual rates that are decreases from the current average annual rates. Under the recommended rates, the average rates based on energy and demand charges, taken together, will change from the previous average rates by the percentages shown in the following table:

MEDIUM GENERAL SERVICE
Current vs. Recommended Average Rates

	Average Rates (¢/kWh)		Percentage Change
	Current	**2007-2008**	**2007-2008**
City (MDC)	$0.0591	$0.0509	-13.8%
Suburban (MDS)	$0.0604	$0.0549	-9.1%
Tukwila (MDT)	$0.0622	$0.0558	-10.2%
Network (MDD)	$0.0654	$0.0610	-6.7%

The recommended energy rates are significantly lower than the marginal cost of energy, which averages 10.68¢/kWh for the Medium General Service class as a whole for 2007-2008. The marginal cost figure includes taxes.

Impact of Recommended Rates. In 2007-2008, the average Medium General Service class decrease produced by the Cost Allocation analysis was -13.8% for the City subclass, -9.1% for the Suburban subclass, -10.2% for the Tukwila subclass, and -6.7% for the Network subclass. These decreases are reflected in rates for 2007-2008.

Table 2.8 shows how the annual bills of customers with differing consumption levels will be affected by the recommended rates for City, Suburban, and Tukwila customers. These customers were chosen to demonstrate a range of consumption patterns, including high and low load factors, seasonal variability, and diversity of business and customer types. The same customers were used for City and Suburban data because there is no evidence that Suburban customers differ in their consumption patterns from City (nonnetwork) customers. However, there is reason to believe that Tukwila customers have somewhat different load patterns from that of City and Suburban customers, so those shown in Table 2.8 for Tukwila are customers that are actually located within Tukwila.

Despite average class decreases, demand charges remain at the current level in the recommended rate design. Customers with low load factors will have the smallest decreases in 2007-2008 under the recommended rates. City, Suburban, and Tukwila customers with average or higher consumption and load factors will have the greatest decreases.

ANNUAL BILL IMPACT
MEDIUM GENERAL SERVICE - CITY
RECOMMENDED RATES

CITY (MDC)

	Current Rates (11/1/05)	Recommended 2007-2008 Rates
kWh	$0.0567	$0.0485
kW	$1.03	$1.03

Customer	Load Characteristics	Load Factor	Annual MWh	Annual Bill at Current Rates (11/1/05)	Annual Bill at Recommended Rates (1/1/07)	Percentage Change
Chemical Processing	Low LF, low consumption	0.02	14,390	$ 1,667	$ 1,549	-7.1%
City Park	Low LF, higher winter consumption	0.08	55,840	4,119	3,662	-11.1%
Golf Club	Low LF, higher summer consumption	0.07	63,800	4,400	3,879	-11.9%
Grocery	Consistent load, average LF	0.30	606,720	37,092	32,133	-13.4%
Restaurant	Average consumption, high LF	0.71	691,230	40,465	34,815	-14.0%
Marine Cargo Handling	Average LF, average consumption	0.40	757,080	44,757	38,569	-13.8%
TV Broadcasting Station	Consistent load, high LF	0.89	1,717,220	100,002	85,966	-14.0%
Federal Marine Research Services	Consistent load, moderate LF	0.66	3,736,800	219,204	188,660	-13.9%
Hospital	High consumption, high LF	0.78	6,466,200	377,974	325,120	-14.0%
Communications Installation	High LF, high consumption	0.82	8,137,000	473,249	406,739	-14.1%

SUBURBS (MDS)

	Current Rates (11/1/05)	Recommended 2007-2008 Rates
kWh	$0.0578	$0.0523
kW	$1.03	$1.03

Customer	Load Characteristics	Load Factor	Annual MWh	Annual Bill at Current Rates (11/1/05)	Annual Bill at Recommended Rates (1/1/07)	Percentage Change
Chemical Processing	Low LF, low consumption	0.02	14,390	$ 1,529	$ 1,450	-5.2%
City Park	Low LF, higher winter consumption	0.08	55,840	4,022	3,716	-7.6%
Golf Club	Low LF, higher summer consumption	0.07	63,800	4,351	4,001	-8.0%
Grocery	Consistent load, average LF	0.30	606,720	37,317	33,993	-8.9%
Restaurant	Average consumption, high LF	0.71	691,230	41,020	37,233	-9.2%
Marine Cargo Handling	Average LF, average consumption	0.40	757,080	45,294	41,146	-9.2%
TV Broadcasting Station	Consistent load, high LF	0.89	1,717,220	101,457	92,049	-9.3%
Federal Marine Research Services	Consistent load, moderate LF	0.66	3,736,800	222,144	201,670	-9.2%
Hospital	High consumption, high LF	0.78	6,466,200	383,153	347,724	-9.2%
Communications Installation	High LF, high consumption	0.82	8,137,000	479,884	435,301	-9.3%

TUKWILA (MDT)

	Current Rates (11/1/05)	Recommended 2007-2008 Rates
kWh	$0.0598	$0.0535
kW	$1.03	$1.03

Customer	Load Characteristics	Load Factor	Annual MWh	Annual Bill at Current Rates (11/1/05)	Annual Bill at Recommended Rates (1/1/07)	Percentage Change
Church	Low LF, low consumption	0.30	144,480	$ 9,177	$ 8,262	-10.0%
Community hospital	Low LF, high winter load	0.18	156,760	10,254	9,261	-9.7%
Hotel	Low LF, high summer load	0.28	273,930	17,136	15,402	-10.1%
Machinery & commercial equip.	Avg. LF, low consumption	0.41	615,520	38,302	34,404	-10.2%
Aircraft and parts	Low LF, average consumption	0.36	839,920	52,337	47,019	-10.2%
School	Avg.consumption, high winter load	0.29	971,360	61,015	54,864	-10.1%
Super market	High LF, consistent load	0.73	2,682,960	164,383	147,395	-10.3%
Postal service	Moderate LF, consistent load	0.66	3,909,000	239,625	214,875	-10.3%
Credit Union	High consumption	0.65	5,570,700	341,961	306,690	-10.3%
Grocery products	High consumption	0.65	5,976,000	366,655	328,818	-10.3%

Table 2.9 shows how the annual bills of customers with different consumption levels will be affected by the recommended rates for downtown Network customers. These customers were chosen from within the Network area to demonstrate a range of consumption patterns, including high and low load factors, seasonal variability, and diversity of business and customer types. The percent change in annual bills varies from customer to customer because of differences in load factor as well as differences in consumption patterns.

Table 2.9

ANNUAL BILL IMPACT
MEDIUM GENERAL SERVICE - NETWORK
RECOMMENDED RATES

NETWORK (MDD)

	Current Rates (11/1/05)	Recommended 2007-2008 Rates
kWh	$0.0616	$0.0572
kW	$1.59	$1.59

Customer	Load Characteristics	Load Factor	Annual MWh	Annual Bill at Current Rates (11/1/05)	Annual Bill at Recommended Rates (1/1/07)	Percentage Change
Media Services	Low LF, low consumption, higher summer	0.13	153,600	$ 11,171	$ 10,497	-6.0%
Motel	Low LF, low consumption, higher winter	0.13	188,520	12,913	12,087	-6.4%
Commercial Building	High LF, consistent load	0.82	425,280	27,105	25,240	-6.9%
Parking Garage	High LF, modest consumption	0.87	432,760	27,504	25,606	-6.9%
Office Building	Average LF, average consumption	0.40	900,000	58,655	54,707	-6.7%
Local Transit	Average consumption, higher summer	0.25	977,400	63,699	59,446	-6.7%
Bank	High LF, high consumption	0.84	3,355,200	213,088	198,371	-6.9%
Music/Theatrical Hall	Average LF, high consumption	0.47	4,111,240	267,785	249,751	-6.7%
Athletic Club	Average LF, high consumption	0.56	5,204,400	335,871	313,042	-6.8%
Hotel	High consumption	0.75	6,381,700	407,820	379,827	-6.9%

As was the case with the nonnetwork Medium General Service subclasses, Network customers with low load factors will have the smallest decreases under the proposed 2007-2008 rates. Those with high load factors or higher consumption will receive the greatest decreases.

Annual bill increases by percent were calculated for all Medium General Service customers who had at least 350 days of billed consumption data in 2005. The results are summarized below.

MEDIUM GENERAL SERVICE
Impact of Recommended Rates

	City	Suburban	Tukwila	Network
Class Avg.*	-13.6%	-8.9%	-10.0%	-6.1%
Range of Changes	-14.5% to -7.1%	-9.5% to -5.2%	-10.0% to -8.1%	-6.0% to -4.9%
Range of Majority of Class	-13.9% to -13.3%	-9.2% to -8.5%	-10.2% to -9.9%	-6.2% to -6.0%

*Average changes differ from recommended average changes because they are based on 2005 consumption amounts and patterns of use.

2.5 Large General Service Rates

Large General Service customers are billed under one of four rate schedules. Non-network City of Seattle customers are billed under Schedule LGC. Customers in Tukwila are billed under Schedule LGT, while other suburban customers are billed under Schedule LGS. Downtown network customers are billed under Schedule LGD.

LARGE STANDARD GENERAL SERVICE Customers with 1,000 to < 10,000 kW of Monthly Demand Located Outside the Seattle Downtown Network		
Large Standard General Service: City (LGC)		
	Current	**Recommended 2007-2008**
Energy Charges		
Peak	5.72¢/kWh	5.54¢/kWh
Off-Peak	4.98¢/kWh	3.70¢/kWh
Demand Charges		
Peak	$.40/kW	$.80/kW
Off-Peak	$.17/kW	$.21/kW
Minimum Charge	$10.07/day	$27.93/day
Large Standard General Service: Suburban (LGS)		
	Current	**Recommended 2007-2008**
Energy Charges		
Peak	5.82¢/kWh	6.02¢/kWh
Off-Peak	5.08¢/kWh	4.02¢/kWh
Demand Charges		
Peak	$.40/kW	$.80/kW
Off-Peak	$.17/kW	$.21/kW
Minimum Charge	$10.07/day	$27.93/day
Large Standard General Service: Tukwila (LGT)		
	Current	**Recommended 2007-2008**
Energy Charges		
Peak	6.00¢/kWh	6.22¢/kWh
Off-Peak	5.26¢/kWh	4.15¢/kWh
Demand Charges		
Peak	$.40/kW	$.80/kW
Off-Peak	$.17/kW	$.21/kW
Minimum Charge	$10.07/day	$27.93/day

Note: The peak period is 6:00 a.m. to 10 p.m. Monday-Saturday, excluding six major holidays. Off-Peak Demand is the difference between the maximum demand in all periods and the maximum demand in the peak period.

LARGE NETWORK GENERAL SERVICE
Customers with 1,000 kW or More of Monthly Demand Located in the Seattle Downtown Network

Large Network General Service (LGD)		
	Current	**Recommended 2007-2008**
Energy Charges		
Peak	6.05¢/kWh	6.17¢/kWh
Off-Peak	5.29¢/kWh	4.11¢/kWh
Demand Charges		
Peak	$.84/kW	$1.68/kW
Off-Peak	$.17/kW	$.21/kW
Minimum Charge	$10.33/day	$27.93/day

Note: The peak period is 6:00 a.m. to 10 p.m. Monday-Saturday, excluding six major holidays. Off-Peak Demand is the difference between the maximum demand in all periods and the maximum demand in the peak period.

Design Criteria.

- Separate rates have been designed for City, Suburban, Tukwila and Network customers.

- Energy charges are differentiated by daily time of use. The charge calculation starts with the relationship of the marginal values of peak and off-peak energy costs (1.20:1) derived from the new cost of service results. The relationship is adjusted to 1.50:1 in order to move the peak energy costs closer to the marginal energy cost (8.7¢/kWh) and provide a greater benefit for off-peak consumption. The energy charges maintain the adjusted energy marginal cost differential but are adjusted proportionately to meet the revenue requirement of the respective classes after revenues from demand charges have been taken into account. The suburban energy charges (Schedules LGS and LGT) include a premium, as permitted by the franchise agreements with suburban cities. The network energy charges reflect the policy decision in the current rate review to set downtown network rates in such a way that Large network customers pay their full cost of service.

- Demand charges are also differentiated by daily time of use. The peak demand charge was set at double the charge in current rates in order to move it closer to the marginal cost of service of the distribution system ($12.33/kW for Large network customers and $2.85/kW for Large non-network customers, including taxes). In order to continue encouraging off-peak power usage, the off-peak charge was set equal to the transformer investment discount rate, a level well below the peak charges.

- The monthly minimum charge was set at the marginal customer cost per meter per 30-day month, plus taxes. This value was then converted to dollars per day. It was set at the same level for all Large customers.

Discussion. The recommended Large General Service rate schedules differ from the current rate schedules insofar as they have a greater differential between peak and off-peak energy charges, and also as they set the peak demand charge closer to the total marginal cost of non-network or network distribution. The reason for the change is to promote more conservation of energy among large customers and also to provide them an incentive to reduce or change the time of their peak demand in order to reduce the need for City Light to build new distribution capacity.

The off-peak demand charge is increased only slightly, to conform to the new transformer investment discount rate. This prevents customers with extremely low load factors and predominantly off-peak consumption, as well as eligibility for the transformer investment discount, from canceling the energy portion of their bill with the discount, while still providing an incentive for customers to move their maximum demand away from City Light's peak period.

Customers who take steps to conserve energy, operate more during the off-peak period, or reduce their peak demand during City Light's peak period will benefit more from the recommended rate schedules than those who do not.

The tables below compare energy and demand charges in the current Large General Service rate schedules with the recommended charges.

Comparison of Energy Charges (¢/kWh)			
Schedule	**Current**	**Recommended**	**% Change**
LGC			
Peak	5.72	5.54	-3.1%
Off-peak	4.98	3.70	-25.7%
LGS			
Peak	5.82	6.02	3.4%
Off-peak	5.08	4.02	-20.9%
LGT			
Peak	6.00	6.22	3.7%
Off-peak	5.26	4.15	-21.1%
LGD			
Peak	6.05	6.17	2.0%
Off-peak	5.29	4.11	-22.3%

Comparison of Demand Charges ($/kW)

	Current	Recommended	% Change
Non-network			
Peak	.40	.80	100.0%
Off-peak	.17	.21	23.5%
Network			
Peak	.84	1.68	100.0%
Off-peak	.17	.21	23.5%

The above changes can be compared to the average rates (¢/kWh) by class shown below.

Schedule	Current	Recommended	% Change
LGC-City	5.54	5.04	-9.0%
LGS-Suburban	5.62	5.44	-3.3%
LGT-Tukwila	5.78	5.53	-4.3%
LGD-Network	6.00	5.89	-1.8%

Impact of Recommended Rates. Tables 2.10a-2.10d present the bill impacts for a sample of customer meters in each of the Large General Service classes. The samples are not random samples; they were selected to show a range of impacts and types of businesses. The consumption data represent recent actual demand and energy.

The range of bill impacts and the average bill changes for customers in each Large General Service rate class are shown and discussed below.

Schedule	Minimum	Maximum	Average
LGC-City	-11.4%	4.2%	-9.0%
LGS-Suburban	-4.2%	-2.0%	-3.3%
LGT-Tukwila	-5.2%	-1.8%	-4.3%
LGD-Network	-5.6%	2.9%	-1.8%

- LGC-City: Of the 72 meters in the LGC class for which annual bills were calculated, only two are expected to experience an increase in those bills. These two customers operate almost exclusively during City Light's peak period, consuming 96% and 97% of their energy at that time. They are also low load factor customers, so they are significantly affected not only by the peak energy charge but also by the doubling of the peak demand charge. While they will have bill increases under the recommended rates if they do not change their consumption patterns, they will also gain significantly if they change. Of the meters compared in the LGC class, 72% (52) are expected to experience annual bill decreases within two percentage points of the class average of -9.0%. Two will have decreases slightly larger than -11%, and 16 will have decreases smaller than -7%. All of the latter meters consume more than 70% of their energy during City Light's peak period.

Table 2.10a

ANNUAL BILL IMPACT
LARGE STANDARD GENERAL SERVICE: CITY (LGC)

Rate Period	Off-Peak Energy ($/kWh)	Peak Energy ($/kWh)	Off-Peak Demand ($/kW)	Peak Demand ($/kW)	Minimum Charge per Day
Current Rates	$0.0498	$0.0572	$0.17	$0.40	$10.07
Recommended Rates	$0.0370	$0.0554	$0.21	$0.80	$27.93

Customer	Load Factor	Max. kW	Off-Peak kWh	Peak kWh	Off-Peak kW-Mos.	Peak kW-Mos.	Total kWh	Current Annual Bill	Recommended Annual Bill	Percent Change
Metal Recycling	0.11	3,286	105,219	3,054,708	0	37,613	3,159,927	$195,014	$203,214	4.2%
Construction Materials	0.12	1,563	749,132	1,100,024	85	12,030	1,849,156	$105,055	$98,301	-6.4%
Steel Castings	0.18	1,958	460,538	2,716,757	0	22,907	3,177,295	$187,496	$185,874	-0.9%
Transit	0.20	2,756	600,424	4,099,517	0	22,735	4,699,940	$273,487	$267,517	-2.2%
Office Building	0.25	5,452	2,958,191	8,922,335	458	55,144	11,880,527	$679,811	$647,962	-4.7%
College	0.32	1,987	1,568,726	4,123,815	0	17,365	5,692,541	$320,951	$300,394	-6.4%
Shipyard	0.36	3,784	5,149,481	7,146,163	0	30,620	12,295,644	$677,453	$610,924	-9.8%
Paper and Packaging	0.45	1,180	1,083,176	3,687,666	0	13,775	4,770,842	$270,387	$255,394	-5.5%
Port Facility	0.46	1,152	2,544,296	3,302,722	0	6,726	5,847,018	$318,312	$282,491	-11.3%
Wastewater Processing	0.49	1,580	2,989,110	3,802,730	3	14,696	6,791,840	$372,253	$333,026	-10.5%
Shipping Line	0.50	3,525	7,588,008	8,413,970	492	32,966	16,001,977	$872,432	$773,366	-11.4%
Office Building	0.57	5,181	8,763,093	17,170,877	0	54,696	25,933,970	$1,440,455	$1,319,258	-8.4%
Biotechnology	0.59	5,616	12,182,026	17,953,771	0	56,299	30,135,797	$1,656,140	$1,490,413	-10.0%
Hospital	0.61	2,941	6,214,656	9,813,803	0	30,825	16,028,459	$883,169	$798,287	-9.6%
Aerospace	0.66	3,306	7,547,815	11,405,416	0	38,187	18,953,230	$1,043,546	$941,679	-9.8%
Glass Packaging	0.67	2,929	7,505,045	9,706,314	35	28,875	17,211,360	$940,508	$838,524	-10.8%
Medical Research	0.67	2,528	6,026,272	9,050,284	0	22,913	15,076,555	$826,950	$742,688	-10.2%
Bakery Products	0.71	1,086	2,927,963	3,828,618	5	12,489	6,756,580	$369,806	$330,432	-10.6%
Construction Materials	0.76	3,091	9,292,527	11,722,649	238	35,389	21,015,176	$1,147,499	$1,021,619	-11.0%
Hospital	0.79	1,410	3,886,989	5,849,263	0	16,228	9,736,253	$534,641	$480,850	-10.1%

Table 2.10b

ANNUAL BILL IMPACT
LARGE STANDARD GENERAL SERVICE: SUBURBAN (LGS)

Rate Period	Off-Peak Energy ($/kWh)	Peak Energy ($/kWh)	Off-Peak Demand ($/kW)	Peak Demand ($/kW)	Minimum Charge per Day
Current Rates	$0.0508	$0.0582	$0.17	$0.40	$10.07
Recommended Rates	$0.0402	$0.0602	$0.21	$0.80	$27.93

Customer	Load Factor	Max. kW	Off-Peak kWh	Peak kWh	Off-Peak kW-Mos.	Peak kW-Mos.	Total kWh	Current Annual Bill	Recommended Annual Bill	Percent Change
College	0.55	1,375	2,154,276	4,569,732	0	15,185	6,724,008	$381,470	$373,848	-2.0%
Aerospace	0.60	1,804	3,831,289	5,688,571	0	17,499	9,519,861	$532,704	$510,469	-4.2%
School	0.62	1,379	2,828,267	4,663,335	0	14,697	7,491,602	$420,961	$406,187	-3.5%

Table 2.10c

ANNUAL BILL IMPACT
LARGE STANDARD GENERAL SERVICE: TUKWILA (LGT)

Rate Period	Off-Peak Energy ($/kWh)	Peak Energy ($/kWh)	Off-Peak Demand ($/kW)	Peak Demand ($/kW)	Minimum Charge per Day
Current Rates	$0.0526	$0.0600	$0.17	$0.40	$10.07
Recommended Rates	$0.0415	$0.0622	$0.21	$0.80	$27.93

Customer	Load Factor	Max. kW	Off-Peak kWh	Peak kWh	Off-Peak kW-Mos.	Peak kW-Mos.	Total kWh	Current Annual Bill	Recommended Annual Bill	Percent Change
Aerospace	0.33	1,555	1,650,720	2,941,553	0	14,031	4,592,272	$268,933	$262,694	-2.3%
Steel Mill	0.36	3,802	5,609,638	6,631,690	7,952	34,501	12,241,327	$708,121	$674,562	-4.7%
Aerospace	0.44	1,344	1,735,447	3,620,395	57	13,805	5,355,842	$314,040	$308,266	-1.8%
Aerospace	0.49	4,444	6,699,355	12,702,141	0	46,716	19,401,496	$1,133,201	$1,105,469	-2.4%
Recycler	0.51	1,224	2,041,412	3,491,754	239	13,858	5,533,166	$322,467	$313,042	-2.9%
Health Administration	0.64	2,245	5,217,618	7,558,835	0	23,087	12,776,453	$737,212	$705,160	-4.3%
Postal Service	0.67	2,955	7,404,795	10,033,642	1	30,591	17,438,437	$1,003,747	$955,865	-4.8%
IT Service Provider	0.85	4,638	15,061,240	19,513,449	0	51,249	34,574,689	$1,983,528	$1,879,777	-5.2%

Table 2.10d

ANNUAL BILL IMPACT
LARGE NETWORK GENERAL SERVICE (LGD)

Rate Period	Off-Peak Energy ($/kWh)	Peak Energy ($/kWh)	Off-Peak Demand ($/kW)	Peak Demand ($/kW)	Minimum Charge per Day
Current Rates	$0.0529	$0.0605	$0.17	$0.84	$10.33
Recommended Rates	$0.0411	$0.0617	$0.21	$1.68	$27.93

Customer	Load Factor	Max. kW	Off-Peak kWh	Peak kWh	Off-Peak kW-Mos.	Peak kW-Mos.	Total kWh	Current Annual Bill	Recommended Annual Bill	Percent Change
Convention Center	0.19	1,528	813,528	1,765,347	6	14,585	2,578,874	$162,091	$166,862	2.9%
Office Building	0.29	3,825	2,329,380	7,338,898	0	36,631	9,668,278	$597,998	$610,088	2.0%
Convention Center	0.30	2,880	2,451,068	4,970,745	0	25,397	7,421,814	$451,725	$450,101	-0.4%
Office Building	0.34	1,556	1,332,838	3,505,125	90	16,388	4,650,218	$286,417	$290,880	1.6%
Music Center	0.35	1,295	1,134,500	3,086,388	0	12,407	4,039,252	$244,284	$241,899	-1.0%
Retail/Office Building	0.36	6,025	5,272,931	14,022,366	0	53,613	19,295,297	$1,172,326	$1,171,967	0.0%
Bank/Office Building	0.40	7,280	7,649,179	18,031,350	0	70,496	25,680,529	$1,554,755	$1,545,349	-0.6%
Gov't Office Building	0.42	6,096	7,155,199	15,146,570	0	59,587	22,301,769	$1,344,931	$1,328,728	-1.2%
Department Store	0.43	2,606	2,477,634	7,339,566	0	26,937	9,817,200	$597,738	$599,936	0.4%
Department Store	0.43	3,290	2,970,574	9,531,689	0	34,058	12,502,263	$762,419	$767,413	0.7%
Hotel	0.51	1,273	2,250,801	3,447,030	0	12,320	5,697,831	$337,961	$325,887	-3.6%
Courthouse	0.59	2,360	4,729,035	7,403,982	0	24,643	12,133,017	$718,807	$692,589	-3.6%
Hotel	0.68	1,918	4,592,855	6,745,591	9	20,084	11,338,446	$667,942	$638,712	-4.4%
Bank	0.71	1,449	3,783,110	5,189,610	0	15,386	8,972,720	$527,022	$501,533	-4.8%
Office Building	0.89	3,367	11,532,883	14,916,934	0	38,390	26,449,818	$1,544,812	$1,458,872	-5.6%

- LGS-Suburban: There are only three Large General Service customers in the Suburban class. The range of expected bill decreases for these customers is very close to the average decrease of -3.3%. Of the three, the customer with the smallest expected decrease is also the customer that has the lowest load factor and the highest percentage of peak energy consumption in the group.

- LGT-Tukwila: There are eight Large General Service meters in this class. All but one of the meters in this class are expected to have bill decreases within two percentage points of the average of -4.3%. The meter with the smallest decrease is also the customer with the highest percentage of peak energy consumption in the group. The meter with the largest expected decrease has the second-lowest percentage of peak energy consumption in the group and also has a very high load factor. The high load factor means that most of the customer's bill is composed of energy charges, while the high percentage of off-peak energy consumption means that the customer is significantly benefited by the recommended low off-peak energy charge.

- LGD-Network: Bill comparisons were calculated for 58 Large downtown network meters. The average forecasted change for the class is small, -1.8%. Due to differing consumption patterns, some customers are expected to see a small annual bill increase, while others will see a decrease. For those customers with increases (16, or 28% of the meters), the expected changes range from 0.1% to 2.9%. The other customers are projected to experience decreases ranging from -.03% to -5.6%. Customers that will have a bill increase all use 68% or more of their energy during City Light's peak period and have load factors lower than 50%. Therefore, they are more significantly affected by the recommended increases in peak energy and demand charges than other customers in the class. However, if they can change their consumption patterns, they will also benefit significantly. By the same token, customers with greater projected decreases consume a larger percentage of their energy during the off-peak period, and also have higher load factors. Because of the higher load factors, more of their bill is comprised of energy charges, so they are less affected by the higher proposed peak demand charge. Sixty-two percent of the meters in the class are expected to see a bill change within two percent of the average (that is, inside the range of -3.8% to 0.2%). Twelve meters will experience a larger increase and ten will experience a larger decrease.

2.6 High Demand General Service Rates

High Demand General Service customers are billed under one of two rate schedules. Schedule HDC is for High Demand customers in the City of Seattle, and Schedule HDT is for High Demand customers in Tukwila. There are no customers in the suburbs that meet the criteria for High Demand General Service. Customers located in the downtown network are not eligible for service under a High Demand rate schedule because these schedules have the lowest rates within their geographic area, and very large network customers are much more expensive to serve than very large non-network customers because of the redundant distribution system in a network.

HIGH DEMAND STANDARD GENERAL SERVICE
Customers with 10,000 or More kW of Monthly Demand Located Outside the Seattle Downtown Network

High Demand Standard General Service: City (HDC)		
	Current	**Recommended 2007-2008**
Energy Charges		
Peak	5.53¢/kWh	5.28¢/kWh
Off-Peak	4.77¢/kWh	3.53¢/kWh
Demand Charges		
Peak	$.40/kW	$.80/kW
Off-Peak	$.17/kW	$.21/kW
Minimum Charge	$122.00/day	$118.82/day
High Demand Standard General Service: Tukwila (HDT)		
	Current	**Recommended 2007-2008**
Energy Charges		
Peak	5.81¢/kWh	5.46¢/kWh
Off-Peak	5.05¢/kWh	3.65¢/kWh
Demand Charges		
Peak	$.40/kW	$.80/kW
Off-Peak	$.17/kW	$.21/kW
Minimum Charge	$122.00/day	$118.82/day

Note: The peak period is 6:00 a.m. to 10 p.m. Monday-Saturday, excluding six major holidays. Off-Peak Demand is the difference between the maximum demand in all periods and the maximum demand in the peak period.

Design Criteria.

- Separate rates have been designed for City and Tukwila customers.

- Energy charges are differentiated by daily time of use. The charge calculation starts with the relationship of the marginal values of peak and off-peak energy costs

(1.20:1) derived from the new cost of service results. The relationship is adjusted to 1.50:1 in order to move the peak energy costs closer to the marginal energy cost (8.6¢/kWh) and provide a greater benefit for off-peak consumption. The energy charges maintain the adjusted energy marginal cost differential but are adjusted proportionately to meet the revenue requirement of the respective classes after revenues from demand charges have been taken into account. The Tukwila energy charges (Schedule HDT) reflect a premium, as permitted by the franchise agreement with that city.

- Demand charges are also differentiated by daily time of use. The peak demand charge was set at double the charge in current rates in order to move it closer to the marginal cost of service of the distribution system ($2.12/kW, including taxes). In order to continue encouraging off-peak power usage, the off-peak charge was set equal to the transformer investment discount rate, a level well below the peak charge.

- The monthly minimum charge was set at the marginal customer cost per meter per 30-day month, plus taxes. This value was then converted to dollars per day. It was set at the same level for all High Demand customers.

Discussion. The recommended High Demand General Service rate schedules differ from the current rate schedules insofar as they have a greater differential between peak and off-peak energy charges, and also as they set the peak demand charge closer to the total marginal cost of distribution. The reason for the change is to promote more conservation of energy among very large customers and also to provide them an incentive to reduce or change the time of their peak demand in order to reduce the need for City Light to build new distribution capacity.

The off-peak demand charge is increased only slightly, to conform to the new transformer investment discount rate. This prevents customers with extremely low load factors and predominantly off-peak consumption, as well as eligibility for the transformer investment discount, from canceling the energy portion of their bill with the discount, while still providing an incentive for customers to move their maximum demand away from City Light's peak period.

Customers who take steps to conserve energy, operate more during the off-peak period, or reduce their peak demand during City Light's peak period will benefit more from the recommended rate schedules than those who do not.

The tables below compare energy and demand charges in the current High Demand General Service rate schedules with the recommended charges.

Comparison of Energy Charges (¢/kWh)			
Schedule	**Current**	**Recommended**	**% Change**
HDC			
Peak	5.53	5.28	-4.5%
Off-peak	4.77	3.53	-26.0%
HDT			
Peak	5.81	5.46	-6.0%
Off-peak	5.05	3.65	-27.7%

Comparison of Demand Charges ($/kW)			
	Current	**Recommended**	**% Change**
Peak	.40	.80	100.0%
Off-peak	.17	.21	23.5%

The above changes can be compared to the average rates (¢/kWh) by class shown below.

Schedule	**Current**	**Recommended**	**% Change**
HDC-City	5.28	4.68	-11.4%
HDT-Tukwila	5.70	5.13	-9.9%

Impact of Recommended Rates. Tables 2.11a and 2.11b present the bill impacts for the customer meters in each of the High Demand General Service classes. The consumption data represent recent actual demand and energy.

The range of bill impacts and the average bill changes for customers in each High Demand General Service rate class are shown and discussed below.

Schedule	**Minimum**	**Maximum**	**Average**
HDC-City	-11.9%	-10.7%	-11.4%
HDT-Tukwila	-21.5%	-2.0%	-9.9%

- HDC-City: The range of percentage bill impacts for this class is very close to the average decrease. All meters have fairly high load factors within a somewhat narrow range, and all consume 39% to 49% of their energy during the off-peak period. The meter with the smallest expected bill decrease is the meter with the highest percentage of energy consumption in the peak period.

  The range of impacts shown above assumes that all meters in the class are billed under the standard High Demand-City rate schedule. In fact, one customer eligible for billing under that schedule has been served under an interruptible rate schedule, though with differing rates for different periods, for the last five years. One of the customer's two meters returned to billing under the standard High Demand-City rate schedule in November, 2004. The current contract with the customer stipulates that

Table 2.11a

ANNUAL BILL IMPACT
HIGH DEMAND STANDARD GENERAL SERVICE: CITY (HDC)

Rate Period	Off-Peak Energy ($/kWh)	Peak Energy ($/kWh)	Off-Peak Demand ($/kW)	Peak Demand ($/kW)	Minimum Charge per Day
Current Rates	$0.0477	$0.0553	$0.17	$0.40	$122.00
Recommended Rates	$0.0353	$0.0528	$0.21	$0.80	$118.82

Customer	Load Factor	Max. kW	Off-Peak kWh	Peak kWh	Off-Peak kW-Mos.	Peak kW-Mos.	Total kWh	Current Annual Bill	Recommended Annual Bill	Percent Change
Steel Mill	0.43	71,766	130,166,870	134,359,292	2,052	779,526	264,526,163	$13,951,188	$12,313,113	-11.7%
Waste Treatment	0.46	11,558	20,499,431	26,561,672	6,185	106,220	47,061,103	$2,490,223	$2,212,361	-11.2%
Cement Plant	0.60	10,480	26,468,479	32,411,316	328	118,120	58,879,795	$3,102,196	$2,740,220	-11.7%
Cement Plant	0.66	13,196	34,265,109	42,095,260	308	131,716	76,360,369	$4,015,052	$3,537,626	-11.9%
Educational Institution	0.67	44,368	103,197,768	158,449,952	0	479,800	261,647,720	$13,876,736	$12,392,879	-10.7%
Steel Mill	0.72	17,465	49,566,536	58,552,492	162	206,538	108,119,028	$5,684,919	$5,006,535	-11.9%
Glass Packaging	0.76	17,798	50,216,974	65,256,270	139	181,129	115,473,244	$6,076,497	$5,363,123	-11.7%

Table 2.11b

ANNUAL BILL IMPACT
HIGH DEMAND STANDARD GENERAL SERVICE: TUKWILA (HDT)

Rate Period	Off-Peak Energy ($/kWh)	Peak Energy ($/kWh)	Off-Peak Demand ($/kW)	Peak Demand ($/kW)	Minimum Charge per Day
Current Rates	$0.0505	$0.0581	$0.17	$0.40	$122.00
Recommended Rates	$0.0365	$0.0546	$0.21	$0.80	$118.82

Customer	Load Factor	Max. kW	Off-Peak kWh	Peak kWh	Off-Peak kW-Mos.	Peak kW-Mos.	Total kWh	Current Annual Bill	Recommended Annual Bill	Percent Change
Steel Mill	0.03	19,526	4,829,148	206,467	139,124	5,491	5,035,615	$281,715	$221,146	-21.5%
Aerospace	0.09	48,080	7,219,750	31,710,945	0	411,160	38,930,695	$2,371,467	$2,323,866	-2.0%
Aerospace	0.64	14,050	29,472,157	49,547,978	0	158,268	79,020,136	$4,430,389	$3,907,668	-11.8%
Real Estate Developer	0.73	13,548	37,533,717	49,048,282	0	139,554	86,581,999	$4,800,979	$4,159,660	-13.4%

both of its meters will be billed under the standard High Demand-City rate schedule when a new schedule in this category is established by ordinance. The overall bill change for this customer (two meters), compared to its 2005 billings under the HDC and HDI rate schedules, is estimated to be about -3.4%.

- HDC-Tukwila: The four meters in this class show a wide range of annual bill impacts around the average change of -9.9% because they have very different consumption patterns. The meter with the largest expected bill decrease consumes only four percent of its energy during City Light's peak period, whereas the meter with the smallest expected decrease consumes 81% of its energy during the peak period.

Elimination of Alternative High Demand Rate Schedules. It is recommended that the High Demand Interruptible rate schedule (Schedule HDI) be eliminated because, as noted above, it serves only one customer which, by contract, will return to the High Demand-City rate schedule when a new ordinance establishes new HDC rates. If, in the future, City Light contracts with customers for interruptible rates, such a schedule can be reinstated.

The Variable Rate General Service rate schedules available to customers otherwise eligible for High Demand service in the City of Seattle (Schedule VRC) and in Tukwila (Schedule VRT) are also recommended for elimination. No customers have requested service under such a schedule since August 1998. City Light would prefer to avoid the economic risk to which it is exposed through the existence of the Variable Rate schedules, since under certain conditions it might be unable to fully recover its energy costs from customers paying market-indexed energy rates.

2.7 Streetlight and Floodlight Rates

Rate Description

Schedule F is available to all customers, including but not limited to water and sewer districts and King County, who contract with the Department for floodlights operating from dusk to dawn. Schedule T is available to all customers, including but not limited to water and sewer districts and King County, who contract with the Department for dusk-to-dawn lighting of streets, alleys, and other public thoroughfares. Schedule P is available to all customers, including but not limited to water and sewer districts and King County, who contract with the Department for pedestrian lighting.

Customers pay a flat monthly charge under one of three options. The monthly charge for Option E floodlights covers energy only. The monthly charge for Option M floodlights, streetlights and pedestrian lights includes energy, lamp replacement, fixture maintenance costs and scheduled pole maintenance costs. For Option C streetlights and pedestrian lights, the monthly charge includes the Option M charges as well as the capital costs of fixtures. For Option P pedestrian lights, the monthly charge includes Option C charges as well as the capital cost of poles.

The range of the increase in streetlight rates is 26.3% to 90.3%, and the range for floodlights is 29.6% to 89.1%. The range of increases for pedestrian lights is 5.6% to 31.9%. The increases in lighting rates are, in general, very high because they are set to recover the full cost of service. In the last rate review, the potential increases were mitigated by the policy of gradualism.

The current and recommended rates for streetlights, pedestrian lights, and floodlights are presented in Table 2.12.

Table 2.12

Schedule T: Streetlights

OPTION M: The monthly charge includes energy, lamp replacement, fixture maintenance costs, and pole maintenance costs.	Current	Recommended
Size and Type of Fixture	Rates	Rates
HIGH PRESSURE SODIUM VAPOR		
70 Watt	$3.73	$5.01
100 Watt	$3.89	$6.22
150 Watt	$4.52	$7.47
200 Watt	$4.88	$8.36
250 Watt	$5.65	$9.83
400 Watt	$7.18	$12.88
OPTION C - The monthly charge include Option M charges and capital costs of the fixture.	Current	Recommended
Size and Type of Fixture	Rates	Rates
HIGH PRESSURE SODIUM VAPOR		
35 Watt	$11.44	$7.34
50 Watt	$5.26	$7.40
70 Watt	$4.23	$7.54
100 Watt	$5.44	$8.73
150 Watt	$6.17	$10.02
200 Watt	$6.60	$11.06
250 Watt	$7.38	$12.53
400 Watt	$8.97	$15.70
200 Watt CB	$9.09	$16.51
250 Watt CB	$10.62	$19.62
400 Watt CB	$13.70	$26.07
UNILUX		
360 Watt	$9.60	$14.98
FLOURESCENT	$6.27	$7.92
F72 W & CW		
MERCURY VAPOR		
175 Watt	$5.48	$9.91
1000 Watt	$16.30	$28.54

PEDESTRIAN LIGHTS		
OPTION M: The monthly charge includes energy, lamp replacement, fixture maintenance costs, and pole maintenance costs.	Current	Recommended
Size and Type of Fixture	Rates	Rates
Zed 47A 70 W	4.97	$6.55
OPTION C - The monthly charge include Option M charges and capital costs of the fixture.	Current	Recommended
Size and Type of Fixture	Rates	Rates
Zed 47A 70 W	$10.28	$12.00
OPTION P - The monthly charge include Option C and M charges and capital costs of the pole.	Current	Recommended
Size and Type of Fixture	Rates	Rates
Zed 47A 70 W	$33.03	$34.87

Schedule F: FLOODLIGHTS

OPTION E - The monthly charge covers only energy.	Current	Recommended
Size and Type of Fixture	Rates	Rates
HIGH PRESSURE SODIUM VAPOR		
70 Watt	$0.96	$1.70
100 Watt	$2.26	$2.93
200 Watt	$2.67	$5.04
250 Watt	$3.44	$6.50
400 Watt	$5.06	$9.55
OPTION M: The monthly charge includes energy, lamp replacement, fixture maintenance costs, and pole maintenance costs.	Current	Recommended
Size and Type of Fixture	Rates	Rates
HIGH PRESSURE SODIUM VAPOR		
100 Watt	$5.49	$8.31
150 Watt	$6.10	$9.96
200 Watt	$6.32	$10.74
250 Watt	$6.99	$12.21
400 Watt	$7.82	$14.78
MERCURY VAPOR		
400 Watt	$8.98	$14.19

2.8 Power Factor Rate

POWER FACTOR RATE Schedule PF	
Current	**Recommended 2007-2008**
For average monthly power factor below 0.97 0.14¢/kVarh	For average monthly power factor below 0.97 0.14¢/kVarh

The Power Factor (PF) Rate is a charge the utility adds to some commercial and industrial customers' bills for having a power factor that is lower than 0.97 the utility standard. When a customer has a low power factor the utility must either provide extra power to compensate for the low power factor or install capacitors on its system. When any load causes unsatisfactory conditions on the Department's system due to induction, the Department may, at its discretion, install kvarh (kilovolt-ampere hours) meters to measure the kilovar consumption of customers that have an average monthly power factor of less than 0.97.

The average power factor is determined as follows:

$$Average\ Power\ Factor\ = \frac{kWh}{\sqrt{(kWh)^2 + (kvarh)^2}}$$

The City Light distribution system is designed to balance reactive energy needs and provide voltage control given the existing level of power factor correction by customers. The current level and structure of the Power Factor Rate provide some incentive to customers to improve their power factors. The current power factor rate is set to recover the cost of maintaining system stability. There is no change in the PF Rate for 2007-2008.

2.9 Pole Attachment Rental and Duct/Vault Rates

Rental rates for pole attachments and installations in City Light's ducts and vaults are charged annually based on the installations and attachments existing as of January 1 of each year. The full annual rental rate is charged for the year in which an installation or attachment is made, regardless of what point in the year use of City Light facilities commences. Each year, each lessee is required to submit to City Light an inventory listing the number and location of all poles, ducts, and vaults used. Any facilities not included in the inventory but identified later are assessed a charge equal to three times the normal rental rate. If no inventory is submitted, the lessee must reimburse City Light for the cost of performing the inventory.

Facility		
Pole Attachments (per pole)	**Current**	**Recommended**
Poles owned solely by City Light	$14.70	$18.55
Poles owned jointly by City Light and Qwest	$7.35	$9.28
Poles owned jointly by City Light, Qwest and Metro	$4.90	$6.18
Ducts (per duct-foot)*	$4.52	$4.98
Vaults (per square foot)		
Wall space	$16.74	$18.91
Ceiling space	$4.52	$4.98

*An innerduct in a rental duct is charged an additional fee of the same amount.

Pole attachment rates are based on capital costs, carrying charges and space allocation. The recommended duct and vault fees are based on the actual cost of the facilities, allocated to users on a proportional basis.

Chapter 3

Discounts

3.1 Transformer Investment Discount

TRANSFORMER INVESTMENT DISCOUNT (Per kW of Monthly Maximum Demand)	
Current	**Recommended 2007-2008**
$0.17	$0.21

Customers who provide their own transformation from the Department's distribution system voltage of 13 kV or above receive a credit equal to the marginal cost savings to City Light. The calculation of City Light's savings takes into account the annualized capital cost and annual operation and maintenance costs of transformers. The total annual value is divided by the expected annual billing kW of customers who own their transformers to determine the discount per kW.

The total cost avoided by City Light was estimated by assigning one or more transformers to the load of each meter with a customer-owned transformer and then calculating the cost of those assigned transformers. Transformers were assigned based on the maximum demand on the meters and the way the Department would have assigned transformers if it, not the customer, were responsible for providing the transformation.

Transformer materials costs were inflated by 1.75% to allow for reserves, added to installation costs and annualized. This total was converted to current dollars and multiplied by a factor reflecting the combined effect of City and State revenue taxes. Operation and maintenance costs were estimated by applying the O&M transformer factor (provided in Chapter 7 of the *Cost of Service and Cost Allocation Report*) to the annualized materials and installation cost for all customer-owned transformers larger than 167 kVA.

The total estimated annual capital and O&M costs of customer-owned transformers were then divided by the average total billing kilowatts (the sum of monthly maximum demands) forecast for 2007-2008 for customers that own their transformers. The result is the discount per kW of monthly maximum demand. The calculations are shown in Table 3.1.

Table 3.1

TRANSFORMER INVESTMENT DISCOUNT

Transformer Size (kVA)	Transformer Cost	Ancillary Eq. & Mat'l Cost	Installation Cost	Frequency (#)	Total Capital Cost
50	$1,761	$271	$1,563	3	$10,782
167	4,661	496	$2,928	6	$48,511
1,000	50,437	1,354	8,439	1	$60,231
1,500	63,621	1,354	8,439	1	$73,415
2,000	75,320	1,354	8,439	5	$425,570
5,000	172,825	37,846	113,082	1	$323,753
15,000	479,477	39,346	118,129	10	$6,369,525
Total Capital Cost (2005$)					$7,311,787

Assumptions:	
Inventory reserve factor	1.0175
Tax rate	10.95%
Economic life (years)	30
Annualization factor	5.10%
O&M % of annual capital cost	5.11%
Percent capital cost subject to O&M	99.19%

		2007-08
Inflation factor (2005=1.0)		1.067
Total capital cost (including inventory reserve)		$7,912,518
Total capital cost with taxes		$8,779,295
Annualized capital cost		$447,913
Capital cost subject to O&M		$444,281
Annual O&M costs		$22,721
Total annual costs		$470,634
Total annual billing kW		2,215,798
Transformer discount/peak kW		$0.21

3.2 Primary Metering Discount

Most City Light customers are metered on the secondary (customer's) side of the transformer. A few customers, however, have primary metering; their electricity use is measured before transformation. These customers are mostly industrial facilities, though they also include parks and transit accounts.

Rates are set to recover costs of energy provided, under the assumption that all customers receive energy on the secondary side of the transformer. Customers with primary metering, therefore, receive a kWh discount to compensate them for the fact that their metered consumption is higher, by the amount of transformer losses, than would be the case if they were metered on the secondary side.

The current formula for calculating the discount in kWh for transformer losses is:

$$\text{kWh losses} = 1{,}756 + (.53285 \times \text{kW}) + (.00002 \times \text{kW}^2) + (.00527 \times \text{kWh})$$

Note: The first term (1,756) is dropped for Small General Service meters

The formula for calculating the discount in kWh was determined through a statistical analysis procedure known as multiple regression (see *Primary Metering Study*, February 1988). The procedure relates the behavior of a dependent variable to a linear function of a set of independent (predictor) variables. Using actual customer maximum demand (kW) and energy (kWh) data, the behavior of transformer losses (dependent variable) was related through the equation to kilowatts and kilowatt-hours (independent variables).

City Light has meters capable of calculating actual transformer losses for each primary metered customer in real time. These calculations are used to reduce kWh billed, taking account of primary metering losses. The statistical formula is used, however, when the programmed meter calculation is not operational.

Chapter 4

Background for Recommended Rates

4.1 Residential Rates

Characteristics of Residential Class

In December 2005, there were 336,673 residential customers: 322,978 Standard Residential customers and 13,695 Rate Assistance customers. In the City of Seattle, there were 273,541 customers, which represent 81.25% of the customers in the residential class. About 17.11% of the customers live in the suburbs and 1.64% live in Tukwila. The average Standard Residential customer consumed 727 kWh per month in 2005. Since 1998, customers in the residential class have reduced their average annual consumption by 11.5%.

The 2005 revenue from the sale of energy to the residential class was $196,287,875. The average cost per kWh was 6.69¢, and the average annual bill was $583. Table 4.1 shows seasonal and annual consumption for residential customers by jurisdiction.

Table 4.1

AVERAGE SEASONAL AND ANNUAL KWH FOR STANDARD RESIDENTIAL CUSTOMERS IN 2005 BY JURISDICTION

Jurisdiction	Percent of Customers	Avg. Summer kWh	Avg. Winter kWh	Avg. Annual kWh
City of Seattle	81.25	3,289	4,823	8,112
Suburban	17.11	4,302	6,373	10,675
Tukwila	1.64	3,672	5,531	9,203
Average Residential	100	3,460	5,084	8,544

Characteristics of City of Seattle Residential Customers

In the City of Seattle, there were 263,053 standard residential customers, which represent 78.13% of the residential customers in the City Light Service Territory. The average Standard Residential City customer consumed 683 kWh per month in 2005. The 2005 revenue from the sale of energy to the residential customers was $149,621,953. The average cost per kWh was 6.61¢, the average annual bill was $547 and the average monthly bill was $45.58.

Characteristics of Suburban Residential Customers

A little over 17%, or 54,740, of the standard residential customers in the Seattle City Light territory live in the suburbs excluding Tukwila. The average Standard Residential Suburban customer consumed 890 kWh per month in 2005. The 2005 revenue from the sale of energy to the residential customers in the suburbs was $41,851,275. The average cost per kWh was 7.16¢, and the average annual bill was $765. The average monthly bill was $63.75.

Characteristics of City of Tukwila Residential Customers

Standard Residential customers in the City of Tukwila represent less than two percent of the standard residential customers. Their average monthly consumption was 774 kWh per month in 2005. The 2005 revenue from the sale of energy to the residential customers in the City of Tukwila was $3,636,318. The average cost per kWh was 7.25¢, and the average annual bill was $673. The average monthly bill was $56.11.

Current Residential Rates

The Residential rate schedule is a three-step inverted rate schedule with a winter/summer block limit differential. The structure is called inverted because the rate increases as consumption increases. With such increasing prices, customers are given different price signals for different levels of consumption. Inverted block rates help in attaining energy conservation goals. By pricing successive blocks of energy at higher rates, high energy usage is discouraged. This rate structure is also considered a "lifeline" rate because the first-block prices, both winter and summer, are well below cost. This inverted lifeline rate schedule is intended to provide electricity at below cost for the essential needs of lighting, cooking, and refrigeration, while at the same time providing a relatively high price signal to customers for their electricity consumption above those basic needs. The higher second- and third-block prices reflect the higher cost of electricity to City Light. The base charge is set to recover half of the marginal customer cost per meter per month.

SCHEDULE RSC: SEATTLE STANDARD RESIDENTIAL			
Summer (April-September)		**Winter (October-March)**	
1 - 300 kWh	4.06¢/kWh	1 - 480 kWh	4.06¢/kWh
301 - 3,000 kWh	8.39¢/kWh	481 - 5,010 kWh	8.39¢/kWh
All over 3,000 kWh	9.81¢/kWh	All over 5,010 kWh	9.81¢/kWh
Base Service Charge: $.0973/meter/day			

SCHEDULE RSS: SUBURBAN STANDARD RESIDENTIAL			
Summer (April-September)		**Winter (October-March)**	
1 - 300 kWh	4.16¢/kWh	1 - 480 kWh	4.16¢/kWh
301 - 3,000 kWh	8.49¢/kWh	481 - 5,010 kWh	8.49¢/kWh
All over 3,000 kWh	9.91¢/kWh	All over 5,010 kWh	9.91¢/kWh
Base Service Charge: $.0973/meter/day			

SCHEDULE RST: TUKWILA STANDARD RESIDENTIAL			
Summer (April-September)		**Winter (October-March)**	
1 - 300 kWh	4.39¢/kWh	1 - 480 kWh	4.39¢/kWh
301 - 3,000 kWh	8.72¢/kWh	481 - 5,010 kWh	8.72¢/kWh
All over 3,000 kWh	10.14¢/kWh	All over 5,010 kWh	10.14¢/kWh
Base Service Charge: $.0973/meter/day			

Methodology for Rate Calculation and Impact Analysis

Billing Determinants. Billing determinants for the residential class are the estimated kWh for 2007-2008 in each block by season and the number of customers expected to have consumption in each rate block. Billing determinants were used to calculate the component prices of the recommended rates. The billing determinants for the residential class include the consumption of both standard and Rate Assistance customers. The 2005 kWh in the first, second, and end blocks, winter and summer, were adjusted to the estimated 2007-2008 total kWh for the Residential class. First, the adjustment was made by seasons using the time-of-use estimates for the class. Then, the energy was distributed into rate blocks based on the estimated distribution of energy in the year of the rate change for the residential class. The information in Table 4.2 was used to calculate the recommended rate schedules.

Table 4.2

BILLING DETERMINANTS
Estimated for 2007-2008
By Season and Rate Block

Rate Block	Season and Block Limit	Megawatt-Hours		
		City of Seattle	Suburban	City of Tukwila
	Summer			
First Block	1-300 kWh	983,812	212,335	21,003
Second Block	301 to 3,000 kWh	1,023,077	316,003	25,304
End-Block	Over 3,000 kWh	8,458	2,006	119
	Total Summer	2,015,346	530,345	46,425
	Winter			
First Block	1-480 kWh	1,522,378	334,441	33,033
Second Block	481 to 5,010 kWh	1,435,255	450,937	37,018
End Block	Over 5,010 kWh	5,206	1,281	67
	Total Winter	2,962,840	786,659	70,118
	Total MWh	4,978,186	1,317,004	116,543
	No. of Meters	561,368	116,247	11,216

Rate Schedule Calculation. The component prices of the recommended Residential Rates were calculated using a file containing the 2005 Residential billing determinants adjusted to the 2007 -2008 forecast of energy consumption for the Residential class. This file contains aggregated billing data by seasons and rate blocks, which was separated into components for City, Suburban, and Tukwila customers based on estimates from historical data and available forecasts. These data, along with the total revenue requirement for each residential sub-class, were used to calculate the prices of the components of the recommended rate schedules without considering discounts for Rate Assistance. The revenue requirements for the residential sub-classes were:

Class	**Estimated 2007-2008**
Residential: City	$323,094,038
Residential: Suburban	93,155,090
Residential: Tukwila	8,488,053
Total	$424,737,181

The basic equation sets the revenue requirement equal to the sum of the products of billing components and their prices. The general equation is:

$$R = \sum_{i=1}^{n} K_i P_i, i = 1,2,3\ldots, n$$

where

R is the test period revenue requirement,

K is a billing component (e.g., first-block summer kilowatt-hours), and

P is the unit price of a billing component.

The solution of the revenue equation for the recommended rates was accomplished by setting the end-block prices as givens and specifying the relationship between second-block and first-block prices.

Data Files Used for Rate Impact Analysis

Files of bimonthly 2005 consumption for all of the City Residential, Suburban Residential, and Tukwila Residential customers were used for the impact analysis of the recommended rates. From these files, summer, winter, and annual bills for individual customers were calculated under the current and recommended rates. Average bills and average percent increases in summer, winter, and annual bills were calculated for customers by level of consumption as well as various levels of usage.

4.2 Residential Rate Assistance

Characteristics of Rate Assistance Customers

In 2005, there were an average of 13,695 residential customers participating in City Light's Rate Assistance program and the Utility Credit Program. The average annual benefit from rate discounts was about $338 per customer, forty percent of the regular average annual bill if these customers had been billed on standard Residential rate schedules. The average monthly consumption for Rate Assistance customers was 887 kWh. The average annual consumption was 10,645 kWh. They consumed 24.6 % more energy per month than standard Residential customers.

Table 4.3 shows the breakdown of the percentage of Rate Assistance vs. Standard Residential customers by jurisdiction.

Table 4.3

PERCENT OF RATE ASSISTANCE and STANDARD RESIDENTIAL CUSTOMERS By JURISDICTION

Location	Rate Assistance	Standard Residential
City of Seattle	76.6%	81.3%
Suburban	20.9%	17.1%
Tukwila	2.5%	1.6%
Total	100%	100%

Table 4.4 shows seasonal and annual consumption for rate assistance residential customers by jurisdiction.

Table 4.4

AVERAGE SEASONAL AND ANNUAL KWH FOR RESIDENTIAL RATE ASSISTANCE CUSTOMERS IN 2005 BY JURISDICTION

Jurisdiction	Percent of Customers	Avg. Summer kWh	Avg. Winter kWh	Avg. Annual kWh
City of Seattle	76.6%	3,950	6,124	10,074
Suburban	20.9%	4,825	7,766	12,591
Tukwila	2.5%	4,635	7,232	11,868
Avg. Residential	100.0%	4,150	6,496	10,645

Characteristics of City Rate Assistance Customers

Table 4.4 indicates that the average annual consumption of City Rate Assistance customers was 10,074 kWh in 2005. This is 24.18% higher than the 2005 average annual consumption of 8,112 kWh for regular City Residential customers. The 2005 revenue from the sale of energy to the Rate Assistance customers in the City of Seattle was $3,299,681. The average cost per kWh was 3.08¢, and the average annual bill was $315. The average monthly bill was $26.11. The average annual benefit per customer was $213.

Characteristics of Suburban Rate Assistance Customers

The average annual consumption of Suburban Rate Assistance customers was 12,591 kWh in 2005. This is 17.95% higher than the 2005 average annual consumption of 10,675 kWh for regular Suburban Residential customers. The 2005 revenue from the sale of energy to the Rate Assistance customers in the suburbs was $1,178,329. The average cost per kWh was 3.25¢, and the average annual bill was $411. The average monthly bill was $34.24. The average annual benefit per customers was $281.

Characteristics of Tukwila Rate Assistance Customers

The average annual consumption of Tukwila Rate Assistance customers was 11,868 kWh in 2005. This is 28.96% higher than the 2005 average annual consumption of 9,203 kWh for Standard Tukwila Residential customers. The 2005 revenue from the sale of energy to the Rate Assistance customers in the City of Tukwila was $145,419. The average cost per kWh was 3.57¢, and the average annual bill was $429. The average monthly bill was $35.75. The average annual benefit per customers was $269.

Overall the average annual consumption of all Rate Assistance customers was 10,645 kWh in 2005. This is 24.59% higher than the 2005 average annual consumption of 8,544 kWh for all Standard Residential customers. The 2005 revenue from the sale of energy to all Rate Assistance customers was $4,623,429. The average cost per kWh was 3.14¢,

and the average annual bill was $337.60. The average monthly bill was $28.13. The average annual benefit per customers was $229.

Current Rate Assistance Rates

All Rate Assistance schedules are identical in structure to the standard Residential rate schedules, except that each component is about 40% of the corresponding rate of each jurisdiction.

SCHEDULES REC/RLC: SEATTLE RATE ASSISTANCE			
Summer (April-September)		**Winter (October-March)**	
1 - 300 kWh	1.70¢/kWh	1 - 480 kWh	1.70¢/kWh
301 – 3,000 kWh	3.10¢/kWh	481 – 5,010 kWh	3.10¢/kWh
All over 3,000 kWh	3.91¢/kWh	All over 5,010 kWh	3.91¢/kWh
Base Service Charge: $.0487/meter/day			

SCHEDULES RES/RLS: SUBURBAN RATE ASSISTANCE			
Summer (April-September)		**Winter (October-March)**	
1 - 300 kWh	1.75¢/kWh	1 - 480 kWh	1.75¢/kWh
301 – 3,000 kWh	3.15¢/kWh	481 – 5,010 kWh	3.15¢/kWh
All over 3,000 kWh	3.96¢/kWh	All over 5,010 kWh	3.96¢/kWh
Base Service Charge: $.0487/meter/day			

SCHEDULES RET/RLT: TUKWILA RATE ASSISTANCE			
Summer (April-September)		**Winter (October-March)**	
1 - 300 kWh	1.86¢/kWh	1 - 480 kWh	1.86¢/kWh
301 – 3,000 kWh	3.26¢/kWh	481 – 5,010 kWh	3.26¢/kWh
All over 3,000 kWh	4.07¢/kWh	All over 5,010 kWh	4.07¢/kWh
Base Service Charge: $.0487/meter/day			

Data File Used for Rate Impact Analysis

The impacts of the recommended rate schedules were analyzed using three 2005 bimonthly annual billing files for City, Suburban, and Tukwila Rate Assistance customers. From these files, annual bills for individual customers were calculated under the current and recommended rates. Average bills and average percent increases for summer, winter, and annual bills were calculated for customers at different levels of consumption. These data files also were used to determine the average benefits to participants in the program and the cost of Rate Assistance.

4.3 Small General Service Rates

Characteristics of Small General Service Customers

The Small General Service class is made up of all nonresidential customers (except streetlights) who have no demand meter, or who have billing demand of less 50 kW. No distinction is made on the basis of end use. The members of this class are served under Small General Service Rate Schedules SMC (City plus City Light Skagit facilities), SMS (Suburban), and SMT (Tukwila). General service customers who meet the Small General Service criteria number approximately 42,000. Figure 4.1 presents a frequency distribution of customers in this class who had a year of valid billings (84% of the class) by kilowatt-hours consumed in 2005. The consumption for most of these customers (44%) was 10 MWh or less in 2005.

Current Small General Service Rates

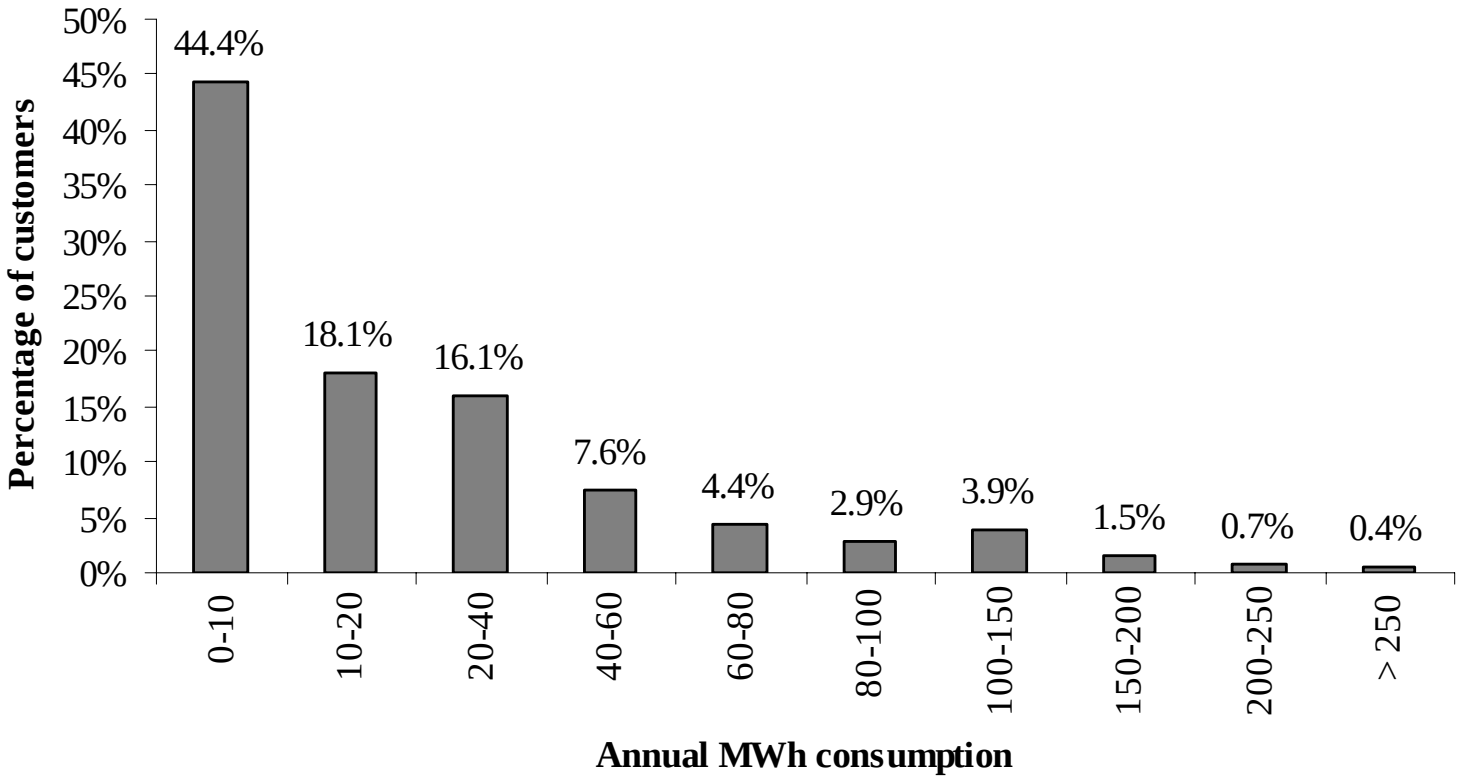
Schedule SMC is for customers inside the Seattle City limits, as well as SCL hydro facilities. Schedule SMS is for all customers outside the Seattle City limits except for Tukwila and SCL hydro facilities. Schedule SMT is for all customers in Tukwila. In all cases, small general service customers are defined as those without demand meters or, for demand-metered customers, for whom the meters register less than 50 kW of maximum demand for more than half of the normal billings in the previous calendar year.

Schedules SMC, SMS and SMT are available for all general service uses of electricity. General service uses include, but are not limited to, manufacturing, processing, refining, freezing, lighting, water heating, air conditioning and space heating, traffic control systems, and electricity provided to the common use areas of multiple-dwelling buildings.

The current rate design is based on rates in effect from November 1, 2005 to the present.

CURRENT RATES			
	SMC	**SMS**	**SMT**
All Energy/kWh	$0.0586	$0.0597	$0.0616
Minimum Charge: $0.20 per meter per day			

Figure 4.1
Percentage of Customers by 2005 Annual Consumption
Small General Service



Design Criteria.

- Energy charges were flat throughout the year.
- There were no demand charges.
- The minimum charge was set at the marginal customer cost per meter per month, plus taxes. There was no customer charge.

Consumption and Revenue. In 2005, there were 42,614 valid billing meters in the Small General Service class. These customers consumed 1,184,561,729[1] kWh of electricity and were billed $71,594,354 for an average cost per kilowatt-hour of 6.04¢.

The average annual bill for Small General Service customers in 2005 was $1,680, which is about $140/month. The average total kWh consumption per customer was 27,797 (2,316 kWh per month).

For City customers (including City Light Skagit facilities), the average monthly bill was $140; for Suburban customers, the average monthly bill was $136; and for Tukwila customers, the average monthly bill was $186. Small General Service customers in the City used, on average, 100 more kWh per month than customers in the Suburbs; Tukwila customers averaged 600 kWh per month more than City customers.

Methodology for Rate Calculation and Impact Analysis

Billing Determinants. The combined kilowatt-hours forecast by City Light's Financial Planning Model for all Small General Service classes is 2,431,239,000 for 2007 and 2008. The forecast number of customers is an estimate based on historical trends. "Meter-months" are the number of customers times 24 months. The forecast figures were allocated between three Small General Service customer groups: City (including Skagit facilities), Suburbs, and Tukwila. The forecast for 2007-2008 for each customer group is presented in Table 4.5.

[1] Dreyer, Nick. "Summary of Rate Information for 2005," February, 2006: outmrat.lst.

Table 4.5 2007-2008 BILLING DETERMINANTS Small General Service	
City	**2007-2008**
Consumption (kWh)	2,081,446,000
Number of Customers	36,750
Meter-months	1,768,088
Suburban	**2007-2008**
Consumption (kWh)	285,830,000
Number of Customers	5,372
Meter-months	258,453
Tukwila	**2007-2008**
Consumption (kWh)	63,963,000
Number of Customers	892
Meter-months	42,930

Rate Schedule Calculation. Rates are determined by satisfying the revenue equation, within specified constraints. The revenue equation sets revenue equal to the sum of the products of billing components (billing determinants) and their prices.

The general equation is

$$R = \sum_{i=1}^{n} K_i P_i, \; i = 1,2,3\ldots,n,$$

where

R is the class revenue requirement,

K is a billing component (e.g., kilowatt-hours, number of meter-months), and

P is the price of a billing component.

The rates calculated to be effective from January 1, 2007 through December 31, 2008 were based on revenue requirements for rate years 2007 plus 2008.

The estimated revenue requirements for 2007-2008 were obtained by taking the combined 2007-2008 revenue requirements from the 2007-2008 COSACAR. The Revenue Requirements for 2007 plus 2008 are shown in Table 4.6 below.

Table 4.6

2007-2008 REVENUE REQUIREMENTS
Small General Service

City	Suburbs	Tukwila
$119,172,518	$17,092,043	$3,905,090

Data Files Used for Evaluation and Impact Analysis. The Small General Service billing data file is constructed from monthly Consolidated Customer Service System (CCSS) billing information. The file includes the consumption of meters served under Schedules SMC, SMS, and SMT. This data file was used for summarizing customer characteristics and for demonstrating the effects of the recommended rate schedules on individual customers.

4.4 Medium General Service Rates

Characteristics of Medium General Service Customers

All general service customers with a monthly billing demand greater than or equal to 50 kW and less than 1,000 kW for half or more than half of their normal billings in the previous calendar year are members of this class. There are four Medium General Service classes: MDC (City), MDS (Suburban), MDT (Tukwila), and MDD (Downtown Network). About 69% of the 2,992 average Medium General Service meters served in 2005 were served under Rate Schedule MDC, 11% were served under Rate Schedule MDS, 3% were served under Rate Schedule MDT, and 17% were served under Rate Schedule MDD. Figure 4.2 presents frequency distributions of the four rate classes, by thousands of kilowatt-hours consumed in 2005. Energy consumption for most of these customers (61%) was 500 MWh or less.

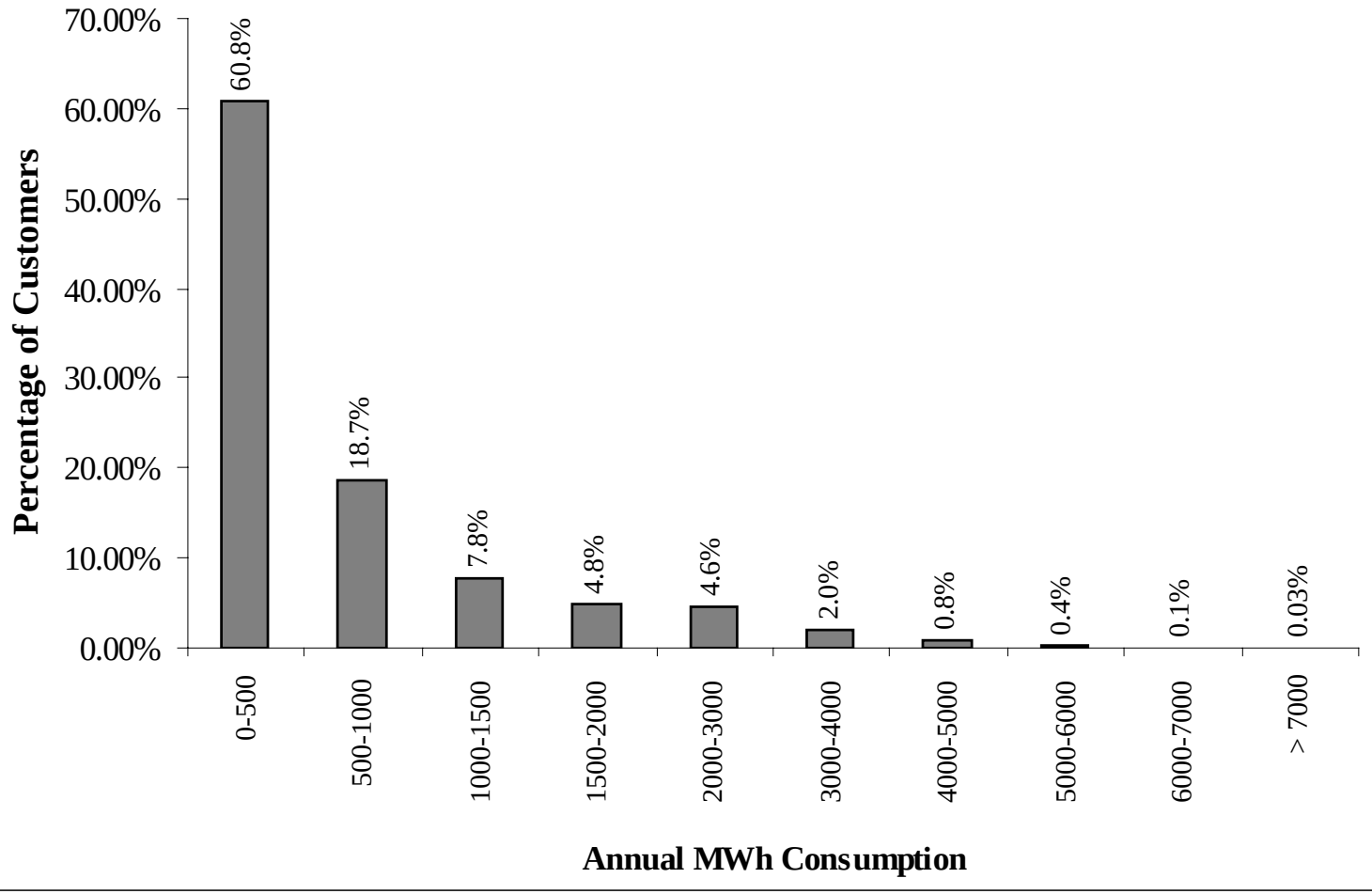
Current Medium General Service Rates

Schedules MDC (City), MDS (Suburban), MDT (Tukwila) and MDD (Downtown Network) are for all general service uses of electricity. Such uses include, but are not limited to, lighting, water heating, air conditioning and space heating, traffic control systems, manufacturing, processing, refining, or freezing, and electricity provided to the common use areas of multiple-dwelling buildings.

The following charges under Schedules MDC, MDS, MDT and MDD have been in effect since November 1, 2005.

CURRENT RATES				
	MDC	**MDS**	**MDT**	**MDD**
Energy Charges:				
All energy	5.67¢/kWh	5.78¢/kWh	5.98¢/kWh	6.16¢/kWh
Demand Charges:				
All kW of maximum demand	$1.03/kW	$1.03/kW	$1.03/kW	$1.59/kW

Figure 4.2


Percentage of Customers by 2005 Annual Consumption
Medium General Service
Percentage of Customers
70.00%
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
60.8%
18.7%
7.8%
4.8%
4.6%
2.0%
0.8%
0.4%
0.1%
0.03%
0-500
500-1000
1000-1500
1500-2000
2000-3000
3000-4000
4000-5000
5000-6000
6000-7000
> 7000
Annual MWh Consumption

Design Criteria.

- Energy charges were flat throughout the year.

- Demand charges were based on costs established in the *Nonresidential Rate Design Study* (NRDS), updated in 1999.

- The minimum charge was set at the marginal customer cost per meter per month, plus taxes, rounded to the nearest whole dollar, and was the same for all Medium sub-classes. However, the minimum charge was later dropped when the Department adopted a new billing system that could not accommodate the calculation of a minimum charge for these sub-classes.

Consumption and Revenue. In 2005 City Light served 2,992 Medium General Service meters. These customers consumed a total of 2,267,470,567[1] kWh of electricity and had a total billed demand of 5,565,797[2] kilowatt-months. Their bills totaled $141,289,282[1], for an average cost per kilowatt-hour of 6.23 cents.

Rates for customers served under Schedule MDC (City) averaged 6.09¢ per kWh; rates for those in the Suburbs (Schedule MDS) averaged 6.18¢ per kWh; rates for those in Tukwila (Schedule MDT) averaged 6.35¢ per kWh; and rates for those in the Downtown Network (Schedule MDD) averaged 6.67¢ per kWh. The average seasonal and annual energy consumption and demand, as well as average bills, for Medium General Service customers served under Schedules MDC, MDS, MDT, and MDD during 2005 are summarized in Table 4.7.

Table 4.7

AVERAGE 2005 CONSUMPTION, DEMAND, and BILLS
Medium General Service Customers

	Schedule MDC	Schedule MDS	Schedule MDT	Schedule MDD
Average kWh	673,115	555,508	826,578	905,077
Average kW-months	1,779	1,509	2,061	2,201
Average Bill	$40,916	$34,328	$52,488	$60,357

Methodology for Rate Calculation and Impact Analysis

[2] Dreyer, Nick. "Summary of Rate Information for 2005," February, 2006: outmrat.lst.
[2] Geist, Arlene. "Commercial-Industrial-Governmental" Year-end Data File, 2005.

Billing Determinants. The number of kilowatt-hours forecast for 2007 and 2008 for each group of Medium General Service customers (City non-network, Suburbs, Tukwila, and Downtown Network) was estimated by City Light's Financial Planning Model. The seasonal distribution of consumption and demand was determined from time-of-use estimates derived from 2005 load survey data and from CCSS billing information. The predicted number of customers is an estimate based on historical trends. "Meter-months" are the number of customers times 24 months. The City, Suburban, Tukwila, and Network forecasts for 2007 plus 2008 are presented in Table 4.8.

Table 4.8

2007-2008 BILLING DETERMINANTS
Medium General Service Customers

2007-2008	City	Suburbs	Tukwila	Network
Energy (kWh)	3,147,502,000	399,788,000	183,627,000	1,019,728,000
Demand (kW)	7,314,453	1,013,041	423,419	2,431,924
Number of Customers	2,069	329	102	493
Meter-Months	49,649	7,899	2,449	11,836

Rate Schedule Calculation. Rates were determined by satisfying the revenue equation, within specified constraints. The revenue equation sets the revenue requirement equal to the sum of the products of billing components and their prices. The rates calculated to be effective from January 1, 2007 through December 31, 2008 were based on revenue requirements for rate years 2007 plus 2008. The general equation is:

$$R = \sum_{i=1}^{n} K_i P_i, \; i = 1,2,3\ldots,n,$$

where

R is the 2007-2008 revenue requirement,

K is a billing component (e.g., kilowatt-hours), and

P is the unit price of a billing component.

Four revenue equations were solved--one for each of the four subgroups (City, Suburbs, Tukwila, and Network).

The estimated revenue requirements for 2007-2008 were obtained by taking the combined 2007-2008 revenue requirements from the 2007-2008 COSACAR. The revenue requirements for 2007 plus 2008 are shown in Table 4.9 below.

Table 4.9

2007-2008 REVENUE REQUIREMENTS
Medium General Service

City	Suburbs	Tukwila	Network
$160,270,121	$21,960,705	$10,254,358	$62,208,968

For each Medium General Service subgroup,

$$R = K_1P_1 + K_2P_2$$

where

R = 2007-2008 revenue requirement,
K_1 = number of kilowatt-hours,
P_1 = energy charge,
K_2 = number of kilowatts,
P_2 = demand charge

Data Files Used for Evaluation and Impact Analysis. The Medium General Service billing data file is constructed from monthly Consolidated Customer Service System (CCSS) billing information. This file includes the consumption and demand for all meters served under Medium General Service rate schedules in 2005. This data file was used for establishing demand billing determinants for the class, for demonstrating the effects of different rate schedules on individual customers, and for summarizing customer characteristics.

4.5 Large General Service Rates

Characteristics of Large General Service Customers

There were 147 Large General Service meters in calendar year 2005. Although these meters comprised only about 0.04% of City Light's total meters, they registered consumption of approximately 1.5 billion kWh, or 17% of the total kilowatt-hours sold, and provided about 16% of the total billed energy revenues. The average annual 2005 rate for service under Large General Service rate schedules was 5.87¢/kWh. Since 2003, there have been four Large General Service classes. Historical 2005 data on the meters in these classes is provided below.

	Large-City	**Large-Suburban**	**Large-Tukwila**	**Large-Network**
Schedule	LGC	LGS	LGT	LGD
Meters	77	3	9	58
KWh sold	712,127,277	23,358,646	194,210,048	616,054,823
Revenues	$40,326,855	$1,343,376	$11,382,610	$37,708,268
Avg. rate/kWh	5.66¢	5.75¢	5.86¢	6.12¢

Note: The revenues shown above include not only demand and energy charges, but also any discounts received by some customers for primary metering and transformer investment. They do not include revenue from charges for low power factor or private lighting that are billed to some customers.

Current Large General Service Rates

Availability. Large Network General Service rate schedules are for general service meters inside the downtown network system that have a maximum demand of 1,000 kW or more for at least six normal monthly billings in a year. Large Standard General Service rate schedules are for such customers outside the downtown network system who have maximum demand of at least 1,000 kW but less than 10,000 kW for the same period.

Current Charges and Features. The current Large General Service rate schedules consist of year-round energy (kWh) charges and demand (kW) charges for peak and off-peak time periods, as well as a daily minimum charge. An additional feature of the rate schedules is the availability of discounts for transformer losses for primary metered customers and for transformer investment for customers who own their transformers.

The peak period is from 6 a.m. to 10 p.m., Monday through Saturday (except that six major holidays are included in the off-peak period regardless of the day of the week on which they fall). The off-peak period encompasses all other hours.

Peak demand charges are assessed during the peak period, for all kW of maximum demand within those hours. Off-peak demand charges are assessed on the difference between the maximum demand in all periods and the maximum demand registered during

the peak period. For those customers who own their transformers, the applicable discount is given for each kW of maximum demand, regardless of when it occurs.

The current charges, which are shown below, went into effect on November 1, 2005.

CURRENT LARGE GENERAL SERVICE RATE SCHEDULES				
	LGC	**LGS**	**LGT**	**LGD**
Energy Charges (¢/kWh)				
Peak	5.72	5.82	6.00	6.05
Off-Peak	4.98	5.08	5.26	5.29
Demand Charges ($/kW)				
Peak	.40	.40	.40	.84
Off-Peak	.17	.17	.17	.17
Minimum Charge/Day	$10.07	$10.07	$10.07	$10.33

The following criteria were used in the design of the current Large General Service rates:

- In 1999, separate rates were designed for City, Suburban and Network customers, with the expectation that they would be effective for 2000-2002. Two sets of rates were designed, one for the 2000-2001 period and one for 2002. The following average rate changes were expected.

Customer Class	**2000-2001**	**2002**
Large Standard General Service: City	3.4%	0.3%
Large Standard General Service: Suburban	6.3%	0.3%
Large Network General Service	8.9%	6.1%

  The 2002 change was only implemented for Large Network General Service customers.

  Separate rates for Tukwila customers were established in 2003. Prior to that time, the franchise agreement with Tukwila specified that Tukwila customers would be served under the same rates as City of Seattle customers.

- In 1999, energy charges were differentiated by season and time period. For each rate period, the energy charge calculation started with the relationships of the peak and off-peak energy costs derived from cost of service results (prior to inclusion of transformer costs and half the transformer losses, which were taken into account in demand charges). These charges were adjusted proportionately, incorporating the seasonal differential, to recover the revenue requirements after revenues from demand charges had been taken into account. The energy charges derived up to this point were modified by the addition of streetlight charges (Schedules LGC and LGD) and the suburban premium (Schedule LGS).

In March 2001, during the West Coast power crisis, winter energy rates were raised and became year-round rates. Tukwila energy charges, reflecting a larger suburban premium, were calculated like Schedule LGS energy charges and added in 2003. Streetlight charges have not been included in energy charges since mid-November 2003. Energy charges since 1999 have been modified by the addition and subtraction of across-the-board adjustments to account for changes in charges for power and transmission sold to City Light. Therefore, the differential between peak and off-peak energy charges, originally about 1.20:1, is a little flatter in current rates at about 1.15:1. In March 2002, energy rates for network customers were increased, as originally planned in 1999, to bring them closer to cost of service by incorporating one-half the cost differential between network and non-network service in the rates.

- Demand charges for the 2000-2001 and 2002 periods were differentiated only by daily time of use. Within the peak and off-peak periods they were the same year round. The peak demand charge for 2002 was set to cover marginal transformer costs and half the marginal transformer losses, plus taxes, for each rate schedule. Since this charge was either much lower (Schedules LGC and LGS) or much higher (Schedule LGD) than the peak demand charge in the previous rate schedule, demand charges for 2000-2001 were set to move halfway to the 2002 goal for each rate schedule. In March 2002, the peak demand rate for network customers was increased, as originally planned in 1999, as part of the effort to bring them closer to cost of service, as indicated above. However, the peak demand charge for other Large General Service rate schedules remained at the 2000-2001 level. In order to continue encouraging off-peak power usage, the off-peak charge was set equal to the transformer investment discount rate, a level well below the peak charges.

- The monthly minimum charge was set at the marginal customer cost per meter per day, assuming a 30-day month, plus taxes. It was set at the same level for City, Suburban and Network customers, and later for Tukwila customers. In conjunction with the change to network rates implemented in March 2002, as noted above, the minimum charge for Large Network customers was changed to the originally proposed 2002 level, making it slightly higher than the minimum charge for the other Large General Service classes.

Methodology for Rate Calculation and Impact Analysis

Revenue Requirements. The test period for this rate review is 2007-2008 period. The combined two-year revenue requirements for the Large General Service sub-classes are:

Class	**2007-2008**
Large Standard General Service: City (Schedule LGC)	$77,595,721
Large Standard General Service: Suburban (Schedule LGS)	2,535,357
Large Standard General Service: Tukwila (Schedule LGT)	12,408,207
Large Network General Service (Schedule LGD)	74,158,778
Total	$166,698,063

Billing Determinants. These are the kilowatt-hours, kilowatts, and meter-months that customers are expected to be billed for in a test period. Time-of-use estimates from 2004 load survey data were used to allocate the total kilowatt-hours forecast by month to the peak and off-peak periods within each month. The allocation of peak and off-peak kilowatts was assumed to be the same percentage of annual consumption as in 2004. The billing determinants for the combined 2007-2008 rate years are presented in Table 4.10.

Table 4.10

2007-2008 BILLING DETERMINANTS
Large General Service

	City	Suburban	Tukwila	Network
Energy:				
Peak kWh	959,539,492	29,288,174	131,365,856	838,099,303
Off-Peak kWh	580,097,508	17,332,826	93,114,144	419,967,697
Total kWh	1,539,637,000	46,621,000	224,480,000	1,258,067,000
Demand:				
Peak Billing kW	3,715,952	93,066	457,004	3,088,738
Off-Peak Billing kW	32,524	0	16,546	3,918
Meter-Months	1,872	72	192	1,368

Rate Schedule Calculation. Rates are determined by satisfying an equation that sets the sum of the products of the billing components and their prices equal to the class revenue requirement. The general equation for Large General Service rate schedules is:

$$R = \sum_{i=1}^{n} K_i P_i, \; i = 1,2,3\ldots,n,$$

where

R is the test period revenue requirement,

K is a billing component (e.g., the number of kilowatt-hours in a period), and

P is the unit price of a billing component.

Design criteria establish the constraints on the solution of this equation. Demand charges are set exogenously. After revenue to be collected through demand charges is taken into account, energy charges are calculated to recover the rest of the class revenue requirement. There are two basic design criteria that determine the solution of the equation for energy charges:

- The energy and demand charge revenues collected through the rates must equal the revenue requirement.

- The peak/off-peak differential must be maintained for each set of energy rates.

Data Files Used for Evaluation and Impact Analysis. The Large General Service billing data file was constructed from 2004 billing data (demand) and load survey data (energy) for customer meters served under rate schedules LGC, LGS, LGT and LGD. This data file was used for estimating the kW billing determinants for the class and for demonstrating the effects of the recommended rate schedules on individual customers. Forecasted kWh consumption by time period was based on historical load survey data adjusted to the total class forecast.

4.6 High Demand General Service Rates

Characteristics of High Demand General Service Customers

There were ten High Demand General Service meters in 2005. These meters constituted only 0.003% of City Light's total meters, but they registered consumption of a little more than one billion kWh, or 12% of the total kilowatt-hours sold. Revenues from these accounts amounted to about 10% of the total billed energy revenues. The average annual 2005 rate for service under High Demand General Service rate schedules was 5.18¢/kWh. Since 2002, one customer has been served under a High Demand Interruptible rate schedule. Since 2003, there have been two standard High Demand General Service classes, High Demand-City and High Demand-Tukwila. Historical 2005 data on the meters in these classes is provided below.

	High Demand-City	**High Demand-Tukwila**	**High Demand-Interruptible**
Schedule	HDC	HDT	HDI
Meters	6	3	1
KWh sold	642,206,211	120,281,489	285,654,068
Revenues	$34,375,861	$6,971,603	$12,998,583
Avg. rate/kWh	5.35¢	5.80¢	4.55¢

Note: The revenues shown above include not only demand and energy charges, but also any discounts received by some customers for primary metering and transformer investment. They do not include revenue from charges for low power factor or private lighting that are billed to some customers. In the case of the High Demand Interruptible customer, revenues include charges for buying through requested interruptions.

Current High Demand General Service Rates

Availability. High Demand General Service rate schedules are for general service meters outside the downtown network system that have a maximum demand of 10,000 kW or more for at least six normal monthly billings in a year.

Current Charges and Features. The current High Demand General Service rate schedules consist of year-round energy (kWh) charges and demand (kW) charges for peak and off-peak time periods, as well as a daily minimum charge. An additional feature of the rate schedules is the availability of discounts for transformer losses for primary metered customers and for transformer investment for customers who own their transformers.

The peak period is from 6 a.m. to 10 p.m., Monday through Saturday (except that six major holidays are included in the off-peak period regardless of the day of the week on which they fall). The off-peak period encompasses all other hours.

Peak demand charges are assessed during the peak period, for all kW of maximum demand within those hours. Off-peak demand charges are assessed on the difference

between the maximum demand in all periods and the maximum demand registered during the peak period. For those customers who own their transformers, the applicable discount is given for each kW of maximum demand, regardless of when it occurs.

The current HDC and HDT charges, which are shown below, went into effect on November 1, 2005. The HDI charges went into effect on January 1, 2005.

CURRENT HIGH DEMAND GENERAL SERVICE RATE SCHEDULES

	HDC	HDT	HDI*
Energy Charges (¢/kWh)			
Peak	5.53	5.81	4.31
Off-Peak	4.77	5.05	3.87
Demand Charges ($/ kW)			
Peak	.40	.40	.40
Off-Peak	.17	.17	.17
Minimum Charge/Day	$122.00	$122.00	$122.00

*The contract also includes a wholesale power trigger price at which interruptions can be requested by City Light, surcharges for buying through requested interruptions, monthly limitations on and amount of notice for interruption requests, and true-up provisions related to standard rates.

The following criteria were used in the design of the current High Demand General Service rates:

- In 1999, there was one standard High Demand General Service rate schedule that was expected to be effective for 2000-2002. Two sets of rates were designed, one for the 2000-2001 period and one for 2002. Average High Demand rates were expected to change by 1.3% for the 2000-2001 period and -0.6% in 2002. The expected 2002 change was never implemented.

  The interruptible rate schedule became effective in 2002. Separate rates for Tukwila customers were established in 2003. Prior to that time, the franchise agreement with Tukwila specified that Tukwila customers would be served under the same rates as City of Seattle customers.

- In 1999, energy charges were differentiated by season and time period. For each rate period, the energy charge calculation started with the relationships of the peak and off-peak energy costs derived from cost of service results (prior to inclusion of transformer costs and half the transformer losses, which were taken into account in demand charges). These charges were adjusted proportionately, incorporating the seasonal differential, to recover the revenue requirement after revenues from demand charges had been taken into account. The energy charges derived up to this point were modified by the addition of streetlight charges.

In March 2001, during the West Coast power crisis, winter energy rates were raised and became year-round rates. High Demand-Tukwila energy charges, reflecting a premium permitted by the new franchise agreement, were calculated similarly to Large General Service-Tukwila energy charges and added in 2003. Streetlight charges have not been included in energy charges since mid-November 2003. Energy charges since 1999 have been modified by the addition and subtraction of across-the-board adjustments to account for changes in charges for power and transmission sold to City Light. Therefore, the differential between peak and off-peak energy charges, originally about 1.19:1, is a little flatter in current rates at about 1.16:1.

- Demand charges for the 2000-2001 and 2002 periods were differentiated only by daily time of use. Within the peak and off-peak periods they were the same year round. The peak demand charge for 2002 was set to cover marginal transformer costs and half the marginal transformer losses, plus taxes, for the rate schedule. Since this charge was much lower than the peak demand charge in the previous rate schedule, the peak demand charge for 2000-2001 was set to move halfway to the 2002 goal. In order to continue encouraging off-peak power usage, the off-peak charge was set equal to the transformer investment discount rate, a level well below the peak charge.

- The monthly minimum charge was set at the marginal customer cost per meter per day, assuming a 30-day month, plus taxes. It was set at the same level for Tukwila customers in 2003.

Methodology for Rate Calculation and Impact Analysis

Revenue Requirements. The test period for this rate review is the combined 2007-2008 rate years. The combined two-year revenue requirements for the High Demand General Service classes are:

Class	**2007-2008**
High Demand General Service: City (Schedule HDC)	$89,242,375
High Demand General Service: Tukwila (Schedule HDT)	21,183,608
Total	$110,425,983

Billing Determinants. These are the kilowatt-hours, kilowatts, and meter-months that customers are expected to be billed for in a test period. Time-of-use estimates from 2004 load survey data were used to allocate the total kilowatt-hours forecast by month to the peak and off-peak periods within each month. The allocation of peak and off-peak kilowatts was assumed to be the same percentage of annual consumption as in 2004. The billing determinants for the 2007-2008 combined rate years are presented in Table 4.11.

Table 4.11

2007-2008 BILLING DETERMINANTS
High Demand General Service

	City	Tukwila
Energy:		
Peak kWh	1,060,419,424	272,640,328
Off-Peak kWh	848,330,576	139,962,672
Total kWh	1,908,750,000	412,603,000
Demand:		
Peak Billing kW	4,101,978	1,406,670
Off-Peak Billing kW	18,788	273,910
Meter-Months	168	96

Rate Schedule Calculation. Rates are determined by satisfying an equation that sets the sum of the products of the billing components and their prices equal to the class revenue requirement. The general equation for High Demand General Service rate schedules is:

$$R = \sum_{i=1}^{n} K_i P_i, \; i = 1,2,3\ldots,n,$$

where

R is the test period revenue requirement,

K is a billing component (e.g., the number of kilowatt-hours in a period), and

P is the unit price of a billing component.

Design criteria establish the constraints on the solution of this equation. Demand charges are set exogenously. After revenue to be collected through demand charges is taken into account, energy charges are calculated to recover the rest of the class revenue requirement. There are two basic design criteria that determine the solution of the equation for energy charges:

- The energy and demand charge revenues collected through the rates must equal the revenue requirement.

- The peak/off-peak differential must be maintained for each set of energy rates.

Data Files Used for Evaluation and Impact Analysis. The High Demand General Service billing data file was constructed from 2004 billing data (demand) and load survey data (energy) for customer meters served under rate schedules HDC, HDT and HDI. In one case, where a customer load had changed significantly in 2005 compared to 2004, 2005 data was substituted for 2004 data. This data file was used for estimating the kW billing determinants for the class and for demonstrating the effects of the recommended rate schedules on individual customers. Forecasted kWh consumption by time period was based on historical load survey data adjusted to the total class forecast.

4.7 Streetlight and Floodlight Rates

Characteristics of Streetlight and Floodlight Customers

Schedule F is available to all customers, including but not limited to water and sewer districts and King County, who contract with the Department for floodlights operating from dusk to dawn. Schedule T is available to all customers, including but not limited to water and sewer districts and King County, who contract with the Department for dusk-to-dawn lighting of streets, alleys, and other public thoroughfares.

The largest streetlight customer is the City of Seattle. The City is responsible for approximately 85% of the streetlights in City Light's service area. The remaining streetlights are billed to other government agencies, businesses, and private citizens.

Revenue from streetlights in 2005 was $6,664,526 and the total number of kilowatt-hours billed was 88,336,326. Revenue from floodlights was $299,817, with consumption of 6,182,322 kWh.

Monthly Charge Components

The monthly charge for Option E floodlights covers only energy. The monthly charge for Option M floodlights and for Option M streetlights includes energy, lamp replacement, fixture maintenance costs and scheduled pole maintenance costs. For Option C streetlights, the monthly charge includes the Option M charges as well as the capital costs of fixtures. For Option P, pedestrian lights, the monthly charge includes Option C charges as well as the capital cost of the poles.

A construction charge is applied when a utility pole and/or a secondary circuit is not available for the installation of a streetlight or floodlight. Installation charges for alley lighting, decorative lighting, and other special lighting are established through the Administrative Code process. These installation charges are set out in Department Policy and Procedure 500 P III-401.

Calculation Methodology for Capital and O&M

The majority of the revenue requirement for lighting capital and O&M is calculated in the process of unbundling the total retail revenue requirement. Plant depreciation, interest costs and net income allocated to lighting comprise the capital component, while O&M and A&G are combined for the O&M component. Taxes are allocated to both components. These components from the unbundled revenue requirements model are used to adjust annualized capital costs and O&M costs based on labor and materials (calculated exogenously) proportionally for each type of light.

In the exogenous calculation, capital costs for streetlights are determined by multiplying the installed fixture cost by an annualized capital cost factor based on a 20-year expected fixture life, discounted at 3%. The annualization factor is:

$$.03 \times (1 + .03)^{20}/[(1 + .03)^{20} - 1)]$$

The installed fixture cost is the total of 2005 labor and material costs adjusted for inflation. Labor costs include fringe benefits and transportation loading. Job performance times were obtained from the Department's work management standards and include travel time. Material costs include a handling charge. Capital costs for floodlights are calculated similarly, except installation costs are not included.

Maintenance costs cover the labor and material costs associated with lamp and photoelectric replacement, fixture maintenance, and pole maintenance. Most lamps and photoelectric cells are replaced every four years under the group relamping program. Damaged fixtures are replaced as necessary. Scheduled pole maintenance consists of the routine repair, treatment, and painting of streetlight poles. There is no pole maintenance charge for fluorescent, "continuous burn", and "energy only" lamps. Labor costs are based on work management time standards and include fringe benefits, transportation loading, travel time, and an inflation factor. Material costs include a handling charge and an adjustment for inflation. Both capital and maintenance charges are increased for taxes at the rate of 10.95%.

Energy Charge Calculation

The number of kilowatt-hours per month is determined by multiplying the average of 350 hours per month by the lamp wattage (adjusted for ballast requirements where applicable). The energy charge is set at the value necessary for collection of the revenue requirement, adjusted for capital and maintenance charges. That is,

$$\text{Energy Charge} = \frac{\text{Class Revenue Requirement - Total Capital \& Maintenance Charges}}{\text{Class Kilowatt-hours}}$$

The revenue requirement and forecasted energy sales for lights for the 2007-2008 period are $24,180,732 and 189,830,000 kWh.

4.8 Power Factor Rate

Certain electrical equipment, such as motors, transformers, and generators, requires reactive current to produce the magnetic fields needed for operation. This energy can either be supplied by the customer by means of capacitors or by the utility's distribution system. When supplied by the utility, a special "reactive meter" is installed in series with the billing meter to measure this reactive current. The purpose of the Power Factor Rate is to induce customers to install capacitors to provide their own magnetizing energy. Customers who supply their own kilovars by installing capacitors to correct their power factor can reduce reactive power costs and eliminate the Power Factor charge. Besides the saving in cost, the major benefits of power factor improvement are: increased plant capacity, improvement of voltage supply, and lower power losses in feeders, transformers and distribution equipment.

The cost of power factor correction varies depending on the reactive power needs of the customer. A reasonably simple power factor rate that would make power factor correction just barely cost-effective for all customers cannot be devised. The present rate is set high enough to offset the cost of capacitors installed by an "average" or "typical" customer. Because of the diversity in cost of correction, the current Power Factor Rate is high enough to more than offset the cost of correction for many customers, yet it is too low to offset correction costs for many others.

There were 3,033 power factor meters in 2005. Only about 7% of all commercial and industrial customers have power factor meters installed on their services. The number of power factor meters by rate class is listed in Table 4.12. Ninety-five percent of the power factor meters are in the Small and Medium rate classes.

Table 4.12
Number of Power Factor Meters in 2005
By Rate Class

Customer Class	No. of Power Factor Meters	Percent of Power Factor Meters
Small General Service - City	829	27.33
Small General Service - Suburban	110	3.63
Small General Service - Tukwila	61	2.01
Medium General Service - City	1,173	38.67
Medium General Service - Network	450	14.84
Medium General Service - Suburban	182	6.00
Medium General Service - Tukwila	64	2.11
Large General Service - City	81	2.67
Large General Service - Network	61	2.01
Large General Service - Suburban	3	0.10
Large General Service - Tukwila	9	0.30
High Demand General Service - City	7	0.23
High Demand General Service - Tukwila	3	0.10
Total Number of Meters	3,033	100.00

Revenue from customers with a power factor meter in 2005 was $2,494,964. About 38.5% of the customers had twelve months of power factor data. Sixty eight percent of these customers had twelve months of power factor below the Department's standard of 0.97. Only eight percent of the customers had a power factor at 0.97 or higher throughout the year.

4.9 Pole Attachment Rental and Duct/Vault Rates

There were 106 pole attachment customers in 2005. Revenue received was $847,721.

The generally accepted formula for calculating the pole attachment annual rental rate is:

Rate = Capital Cost per Bare Pole x Carrying Charge x Pole Space Allocation

An allowance is made for taxes, and rates for a future year are adjusted for inflation. Federal Energy Regulatory Commission (FERC) accounts from the past year are used in the formulas for the estimates of pole costs and carrying charges, along with information unique to the utility.

The formulas for pole cost and carrying charges are as follows:

Capital Cost per Bare Pole = (Book Value of Poles, Fixtures - Allowance for Crossarms) / Number of Poles

Carrying Charge = O&M as % of Book Value + A&G as % of Book Value + Interest Rate + Depreciation Rate

The Pole Space Allocation method used is to allocate 2/3 of the support space equally among users, assign electrical/communications clearance to the shared support space, and use the SCL crossarms deduction of 33% for 90% of the poles.

Duct and vault rental rates are based on the actual cost of the facilities, allocated to users on a proportional basis according to the number of feet of space used.

Chapter 5

Perspective on City Light Rates

5.1 History of City Light Electricity Rates

Seattle City Light ratepayers have experienced rising rates since the early 1970s. Rate changes in 1997 and 1998 were slight decreases. However, rates effective in December 1999 included a small increase, and four increases in 2001 raised rates significantly. Rates began to decline again after 2001, with small decreases in 2002, 2004 and 2005. The proposed 2007-2008 change will be the sixteenth general rate change since 1971. The upward trend in rates during the 1970s followed half a century during which rates either remained constant or declined. Both the years of decreases and the more recent increases in City Light rates parallel national trends.

When electricity first became commercially available, unit costs were high, reflecting the high costs of developing capital-intensive generation, transmission and distribution systems. As demand grew, economies of scale in enlarged production facilities could be realized. Unit costs--and rates--dropped in response.

During the 1970s and early 1980s, double-digit inflation and high interest rates had a major impact on the utility industry's costs, as they did in other key sectors of the national economy. Additionally, utilities found that the raw materials used to generate electricity were becoming scarce, much more expensive, or both. Coal, oil, uranium, and well-located water for hydroelectric production are all examples. Meanwhile, demand throughout the country--and in City Light's service area--continued to grow at impressive rates during the 1970s and early 1980s.

The Utility's first temporary surcharge was added to rates from June 1 through November 30, 1977. The surcharge averaged 60% for the months of June and July and 40% for the months of August through November. Additional revenue from the surcharge was needed to carry the Utility through the drought period in that year. Through the early 1980s, inflation, higher Bonneville Power Administration (BPA) rates, and the cost of new conservation and research programs all contributed to the need for substantial increases.

In July 1992, the City Council approved City Light's second temporary surcharge. The surcharge went into effect on September 1, 1992 and terminated on April 30, 1993. The amount of the surcharge was 10% for all customers except low-income customers served on rate assistance schedules, whose surcharge was 5%.

In March 1993, the City Council approved City Light's eleventh general rate increase and the Department's third temporary surcharge. The permanent rate increase was 12.6% and

the temporary surcharge was 4.05%. The permanent rate increase and temporary surcharge went into effect on May 1, 1993. The temporary surcharge was removed from the rates on October 31, 1993.

The City Council approved City Light's fourth temporary surcharge of 8.9% for all rate schedules in April 1994. The temporary surcharge went into effect on June 1, 1994 and continued through February 28, 1995.

In January 1995, the City Council approved City Light's twelfth and thirteenth general rate increases. The permanent rate increases for 1995 and 1996 were 5.7% and 5.3%, respectively. The 1997-1998 general rate change represented slight decreases. Those rates went into effect on March 6, 1997 and March 1, 1998. In December 1999, the rates increased by 3.2%.

It wasn't until the energy crisis of 2000-2001 that electric rates increased substantially, mainly due to increased power costs, with a cumulative rate increase in 2001 of 56.2% over four rate increases: 9.8% in January, 18% in March, 9.3% in July, and 10.3% in October. Since that time rates have decreased, or increased only modestly, through 2005. There were three rate changes in 2002. The first, in March, implemented the second step of an increase established in 1999 for downtown Network customers; their rates increased about 5%, resulting in a system increase of 0.5%. The second rate change, in April, was a decrease of 1.1% that passed through to customers a decrease in the power rates the Bonneville Power Administration (BPA) charges City Light. A third 2002 change occurred in June—a decrease in residential third-block rates and an increase in the level of consumption at which third-block rates would apply—but this change did not result in any measurable overall percentage rate change. In April 2003, there was an average rate increase of 1.2% to pass through a BPA power cost increase, and in May of that year, an average increase of 0.2% which affected only Tukwila customers (whose rates were increased about 5%) because of a new franchise agreement signed with that city. In 2004 and 2005 the average rate decreases were slightly more than 2% in each year, passing through changes in BPA power costs to City Light.

Table 5.1 indicates that since 1971 Seattle City Light's rate changes have averaged the following amounts:

Table 5.1

AVERAGE RATE CHANGES
by Year for Seattle City Light

Year	Average Rate Change
1971	7.0%
1974	9.0%
1977	5.0%
1980	40.7%
1982	16.0%
1982	18.4%
1984	30.0%
1986	9.5%
1989	4.4%
1990	(2.4%)
1993	12.6%
1995	5.7%
1996	5.3%
1997	(0.4%)
1998	(0.6%)
1999	3.2%
2001	56.2%
2002	(0.6%)
2003	1.4%
2004	(2.1%)
2005	(2.2 %)

City Light's rate increases and decreases have produced the following changes in average system rates from 1982 through 2005, as displayed in Table 5.2.

Table 5.2

AVERAGE SYSTEM RATES FROM 1982 TO 2005

Year	System Average Revenue in Cents/kWh*	Seattle Consumer Price Index (2005=1.00)*	Real Cost in Cents/kWh (Adjusted for Inflation)
1982	1.777	0.507	3.505
1983	2.106	0.506	4.162
1984	2.507	0.523	4.794
1985	2.733	0.534	5.118
1986	2.957	0.538	5.496
1987	3.030	0.550	5.509
1988	3.117	0.568	5.488
1989	3.230	0.595	5.429
1990	3.162	0.637	4.964
1991	3.181	0.672	4.734
1992	3.339	0.696	4.797
1993	3.594	0.717	5.013
1994	3.750	0.743	5.047
1995	3.753	0.764	4.344
1996	3.882	0.790	4.914
1997	3.929	0.814	4.827
1998	3.854	0.836	4.610
1999	3.894	0.862	4.517
2000	4.056	0.894	4.537
2001	5.580	0.926	6.026
2002	6.303	0.942	6.691
2003	6.201	0.956	6.486
2004	6.393	0.971	6.584
2005	6.140	1.000	6.140

*Sources: Average revenue figures are taken from City Light's Annual Financial Statement Reports. The Seattle Consumer Price Index is taken from the forecast of inflation prepared by the City Light Finance Division, February 13, 2006.

In 2000, following California's experiment in deregulation, manipulations of Western energy markets by some private companies combined with a record Pacific Northwest drought to send energy prices soaring. In addition, the Federal Energy Regulatory Commission (FERC) failed to provide the regulatory oversight that could have saved customers billions of dollars throughout the West.

In 2001, City Light raised rates and took on new, short-term debt to cover energy costs from the wholesale market in excess of $500 million. In 2002, however, the Utility was able to sell significant amounts of surplus electricity and took advantage of historically

low interest rates by refinancing a considerable amount of older, more expensive debt; combined with a decrease in BPA rates charged to City Light, these factors allowed rates to be reduced by a small amount.

Water conditions improved somewhat in 2003, and modest rate increases totalling 1.4% enabled the Utility to pay off short-term debt remaining from the 2000-2001 energy crisis.

In 2004 City Light paid off the remaining $70 million owing to the City's cash pool. At the end of 2004, City Light recorded net income of $13.8 million, its first positive net income since 1999. Small rate decreases in 2004 and 2005 (-2.1% and -2.2%, respectively) reflected the decreases in rates that BPA charges the Utility and that are passed on to City Light customers.

5.2 Comparison of City Light Rates with Those of Other Utilities

Seattle City Light's rates continue to be lower than those of most other large cities, as indicated by national surveys. Relying on the comparisons in these surveys, however, requires the user to exercise some caution. Rate changes are frequent and surveys quickly become dated. Moreover, seasonal differentiation in rates and the different rate structures used by utilities mean that neither average rates nor the rates paid by a customer of a certain consumption level necessarily give a fair comparison of one utility's rates with another. These factors need to be kept in mind when reviewing data on trends and comparisons.

That City Light rates have always been lower than those of most utilities in the rest of the country is well known. Table 5.3 presents the partial results of two surveys of residential electric rates in large U.S. cities: one conducted by Edison Electric Institute and one conducted by Jacksonville Electric Authority (JEA).

Tables 5.4 and 5.5 present the results of surveys of commercial and industrial rates for private utilities conducted by the Edison Electric Institute, and commercial and industrial rates for public utilities provided by the utilities themselves. The rates shown are annual averages. The tables show that Seattle’s average commercial and industrial rates continue to be lower than rates for such customers in many other large U.S. cities.

Table 5.3

COMPARISON OF MONTHLY SUMMER RESIDENTIAL ELECTRIC BILLS IN 25 LARGEST U.S. CITIES
(for monthly use of 1,000 kWh)
2006

City	Monthly Bill
New York[1]	$237.95
Boston[1]	207.34
San Francisco[1]	181.78
San Diego[1]	171.67
Houston[2]	155.00
Philadelphia[1]	145.00
Dallas[3]	144.11
El Paso[1]	116.09
Cleveland[1]	108.96
Los Angeles[3]	104.69
Detroit[1]	104.48
Milwaukee[3]	98.82
New Orleans[1]	93.97
Washington D.C.[1]	93.46
Denver[1]	90.25
Jacksonville[3]	89.15
Phoenix[1]	84.56
Columbus[1]	80.23
Chicago[1]	79.91
Atlanta[1]	76.33
Baltimore[1]	75.49
Memphis[3]	75.12
Indianapolis[1]	73.10
San Antonio[3]	71.88
Seattle[3]	**65.57**
Average Excluding Seattle	$114.92

Sources:
[1]"Typical Bills and Average Rates Report," Edison Electric Institute, January 2006.
[2] Houston: www.electricitytexas.com, June 2006.
[3]"Comparison of Residential Electric Rates," Jacksonville Electric Authority, January 2006.

Table 5.4

AVERAGE RATE PER KWH FOR COMMERCIAL CUSTOMERS IN 25 LARGE U.S. CITIES
December 2005

City	¢/kWh
New York	18.61
San Diego	13.79
Boston	13.67
San Francisco	12.53
Cleveland	10.86
El Paso	10.60
Philadelphia	10.10
Los Angeles*	9.50
Washington, D. C.	9.43
Baltimore	9.22
Detroit	8.52
Milwaukee	8.11
New Orleans	8.08
Austin*	8.00
Nashville*	8.00
Chicago	7.82
Phoenix	7.52
San Antonio*	7.44
Atlanta	7.41
Denver	7.20
Indianapolis	7.07
Memphis*	6.69
Columbus	6.23
Jacksonville*	6.10
Seattle*	**6.05**
Average Excluding Seattle	9.27

* Public utility.
Source: Edison Electric Institute, Winter 2006.
Data from public utilities are from each Utility.

Table 5.5

AVERAGE RATE PER KWH FOR INDUSTRIAL CUSTOMERS IN 25 LARGE U.S. CITIES
December 2005

City	¢/kWh
New York	17.41
Boston	12.99
San Diego	10.13
Los Angeles*	8.60
San Francisco	8.18
Philadelphia	7.56
Baltimore	7.54
Cleveland	6.69
New Orleans	6.34
El Paso	6.13
Denver	6.09
Phoenix	6.09
Nashville*	5.88
Detroit	5.66
Austin*	5.61
Milwaukee	5.55
Atlanta	5.40
Seattle*	**5.39**
Chicago	5.16
Columbus	4.92
Indianapolis	4.91
Jacksonville*	4.55
Memphis*	4.28
Washington, D.C.	4.17
San Antonio*	N/A**
Average Excluding Seattle	6.95

* Public utility.

** San Antonio no longer has an "industrial customer" designation.

Source: Edison Electric Institute, Winter 2006. Data from public utilities are from each Utility.

Table 5.6 compares Seattle's average rate by customer group with national averages.

Table 5.6

COMPARISON OF SEATTLE CITY LIGHT'S AVERAGE RATES WITH 2005 NATIONAL AVERAGE RATES

Customer Group	National Average Rate (¢/kWh)[1]	SCL Average Rate (¢/kWh)[2]	SCL as Percent of National
Residential	8.94	6.68	74.7%
Commercial	8.17	6.05	74.1%
Industrial	5.11	5.39	105.5%
Average-All	7.57	6.17	81.5%

[1]Source: "Average Rates (Total Retail, Residential, Commercial & Industrial)," Edison Electric Institute, Winter 2006.
[2]SCL figures are based on "Seattle City Light Sales by Geographic Area," February 2006.

It is clear from Table 5.6 that Seattle's average rates are, in most cases, about three-fourths that of the national average rate. The exception is industrial rates which are slightly higher than the national average. Seattle serves industrial customers from its distribution system, whereas many utilities serve them from the transmission system, thus omitting distribution costs from rates.

Table 5.7 presents comparisons between Seattle City Light's average rates and those of Seattle's three neighboring utilities for 2005. Table 5.7 shows that the average annual rate for customers of Snohomish County PUD and Puget Sound Energy was 17% and 0.15% higher, respectively, than Seattle's average residential rate for the same period. Average rates for Seattle and Puget customers were very similar, even though the basic cost of service rate for Puget residential customers is higher, because Puget residential customers receive the benefit of the BPA residential exchange credit. The average residential rate for Tacoma City Light customers was 1.3% lower than that of Seattle City Light. Commercial customers of Seattle City Light have an average rate of between 11.7% and 20.2% lower than all three neighboring utilities. With regard to industrial customers, Seattle's average rate is 20.2% and 4.5% lower than Puget Sound Energy and Snohomish PUD rates, respectively. However, the average rate for industrial customers in Tacoma is almost 20% lower than Seattle's. Tacoma serves its large industrial customers from the high-voltage system.

Table 5.7

COMPARISON OF SEATTLE CITY LIGHT'S AVERAGE RATES WITH NEIGHBORING UTILITIES[*]
2005 ¢/kWh

Customer Class	Seattle City Light	Puget Sound Energy	Snohomish County PUD#1	Tacoma City Light
Residential	6.68	6.69	7.80	6.59
Commercial	6.05	7.27	6.97	6.76
Industrial	5.39	6.92	5.63	4.32
Average-All	6.17	6.95	7.23	5.32

[*]Based on average rates provided by each utility.

The past record indicates that relative to the rest of the industry City Light has responsibly met the financial challenges brought about by growth, inflation, and the changing mix of generation resources. The financial well-being of the Utility has been preserved and rates have remained far below the average of most other utilities. City Light has taken steps to put itself in a strong financial and resource position. The strength of its financial position is demonstrated by its favorable bond rating. In summary, City Light's customers can reasonably expect to continue to enjoy rates which are below the national and regional average.

Chapter 6

Public Involvement

For the 2007-2008 rate review, a public involvement program was conducted to ensure that City Light ratepayers were well informed about the rate process and their opportunities to comment on electric rates. Three public forums engaged stakeholders in substantive discussions related to the challenges and issues associated with the rate review process. These forums were conducted on March 30, April 10 and April 11. The 2006 public involvement program also included the utility's website and a SEA-TV production that aired on April 3 and other dates.

Nearly 100 people participated in the rate review forums. The three discussion sessions were held in north Seattle, Rainier Valley, and downtown. The facilitated discussions focused on eleven key rate issues that were central to the current rate review process.

A final report titled "Seattle City Light Public Rate Review March-April 2006" provided a summary of the forums and public comments. It is available on the Web at http://www.cityofseattle.net/light/news/issues/RateProc/Docs/RateRevFinalReport042506.pdf.